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## **Socially patterned variations in fetal and infant mortality in the Danish National Birth Cohort**

Andersen, Anne-Marie Nybo

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# **International Conference on Child Cohort Studies**

12 to 14 September 2006  
St Catherine's College, Oxford

## **Programme and abstracts**



**Centre for Longitudinal Studies**

Following lives from birth and through the adult years

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# **International Conference on Child Cohort Studies**

12 to 14 September 2006

St Catherine's College, Oxford

Programme and abstracts

The International Conference on Child Cohort Studies has been organised by the Centre for Longitudinal Studies (CLS), an ESRC-funded Resource Centre based at the Institute of Education, University of London.

Conference committee: Rosemary Creeser, Kirstine Hansen and Tiziana Leone, with help from John Bynner, Shirley Dex, Jessica Henniker-Major and Wendy Robins.

Centre for Longitudinal Studies  
Institute of Education  
20 Bedford Way  
London  
WC1H 0AL  
United Kingdom

Tel: +44 (0)20 7612 6875  
Fax: +44 (0)20 7612 6880  
Email: [cls@ioe.ac.uk](mailto:cls@ioe.ac.uk)  
Web: [www.cls.ioe.ac.uk](http://www.cls.ioe.ac.uk)

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Dear Colleagues,

On behalf of the Centre for Longitudinal Studies (CLS) I would like to welcome you to the International Conference on Child Cohort Studies.

This meeting brings together individuals involved in designing, conducting and analysing the large-scale studies following children born around the millennium. The national birth cohort studies were pioneered in Britain with the 1946, 1958 and 1970 studies. Now these are taking place in many other countries. Between 12 and 14 September 2006 we aim to provide a unique environment for disseminating information on this new generation of studies, whose subjects were born within a decade either side of the year 2000, and for promoting communication and comparison between those working on them in different countries around the world.

This conference is organised by the Centre for Longitudinal Studies (CLS), an ESRC-funded Resource Centre based at the Institute of Education, University of London.

CLS is ideally placed for organising such a conference, since we are responsible for three of the UK's major birth cohort studies, which are following cohorts born in 1958 (the National Child Development Study), 1970 (the 1970 British Cohort Study) and around the time of the last millennium – the Millennium Cohort Study (MCS).

MCS is following a sample of children born over a one-year period in the UK around the turn of the new millennium, starting in September 2000. The study monitors the lives of a large sample of young families, with enhanced numbers in disadvantaged and ethnic minority populations as well as Wales, Scotland and Northern Ireland. Interviews with families first took place when the children were nine months old. They were interviewed again when the children were 3 and 5 years old. A further follow-up has been funded for when the children are aged 7, and the intention is to continue following the subjects into adulthood, we have done with the 1958 and 1970 cohorts.

Hitherto unique in Britain, this method of data collection has now been replicated in many countries around the world. The timing of this conference is significant since many countries with no prior experience of cohort studies have initiated large prospective studies of children born around the millennium, and numerous others are undertaking feasibility exercises with a view to establishing cohort studies in the future. The information generated by studies of this nature is now recognised to be of

unparalleled value to the science of human development and to policy domains across the whole of government.

We believe that this conference will provide ample scope for discussion of some of the design and methodological issues between representatives of the many studies which have contributed study profile posters, and for sharing information on resources and results contained in the papers presented orally or as posters.

We would like to acknowledge the support provided for this meeting by the Economic and Social Research Council (ESRC) and the British Academy. This has enabled two of our keynote speakers, who are based in the USA, to attend the conference, and provided help with the cost of registration, accommodation and travel for three researchers working on child cohort studies in South East Asia. The Policy Press has kindly sponsored the evening drinks reception to welcome delegates on the first day of the conference.

We hope that you will have a happy, productive and rewarding time at the conference, that our studies and their children may flourish, and that we may meet again.

A handwritten signature in black ink, reading "Heather Joshi". The script is fluid and cursive, with the first name "Heather" and the last name "Joshi" clearly distinguishable.

Professor Heather Joshi OBE, FBA  
Director, Centre for Longitudinal Studies (CLS)

**International Conference on Child Cohort Studies**  
12 to 14 September 2006 at St Catherine's College, Oxford

## **CONFERENCE PROGRAMME**

This programme may be subject to last-minute amendments and therefore there may be some changes to the timetabling of presentations.

Unless otherwise indicated sessions will take place in the Bernard Sunley Lecture Theatre.

This programme lists presenters only. Please note that many of the papers have multiple authors.

### **Tuesday 12 September**

09.00 Conference registration

10.15 Welcome from Heather Joshi, Director of the Millennium Cohort Study and the Centre for Longitudinal Studies, Institute of Education

10.30 **Keynote speech** - Jeanne Brooks-Gunn: *Depending on the kindness of strangers: early maternal employment and early childhood education* (Chair: Heather Joshi)

11.30 Coffee break

12.00 **Session 1: Methodology** (Chair: Tiziana Leone)

Henri Leridon: *A French national children's cohort*

Robert Michael and Colm O'Muircheartaigh: *Design priorities and disciplinary perspectives: the case of the US national children's study (2007-2031)*

13.00 Lunch (St Catherine's dining hall)

14.00 **Session 2: Parenting** (Chair: Kirstine Hansen)

Linda Richter and Lynda Clarke: *Fatherhood involvement with children in the Birth to Twenty Cohort in South Africa*

Danielle Crosby and Denise Hawkes: *Comparing early maternal employment in the UK and US: evidence from the first sweeps of the UK Millennium Cohort Study and the US Early Childhood Longitudinal Study*

Kathleen Kiernan: *Unmarried parents in the US and the UK: commonalities and differences*

15.30 Coffee break

16.00 **Keynote speech** - Sara McLanahan: *Studying child development under conditions of demographic change* (Chair: John Bynner)

17.00 **Study profiles: poster reception** (Bernard Sunley Building, First Floor, Room C)

19.00 Dinner (St Catherine's dining hall)

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**Wednesday 13 September**

08.00 Breakfast (St Catherine's dining hall)

09.00 **Session 3: Methodology** (organised by Statistics Canada) (Chair: Stephanie Lalonde)

Shane Norris: *Analysis of sample attrition over the past 15 years in the Birth to Twenty cohort, Johannesburg, South Africa*

Stephanie Lalonde: *An overview of the National Longitudinal Survey of Children and Youth: objectives, design and operational challenges*

Marcel Tremblay: *Treating non-response in the National Longitudinal Survey of Children and Youth (NLSCY)*

Sarah Franklin: *A 10-year review of the methodology of the National Longitudinal Survey of Children and Youth (NLSCY)*



09.00 **Session 4: Development** (Chair: Amanda Sacker)  
(Bernard Sunley Building, First Floor, Room D)

Jordi Julvez Calvo: *Attention behaviour and hyperactivity at age 4 and duration of breastfeeding*

Susan Dahinten: *The pathways through which neighbourhood factors influence developmental outcomes among Canadian school children*

Maria Quigley: *Health and development in infants conceived following infertility treatment compared with those conceived spontaneously*

Amanda Sacker: *Breastfeeding and developmental delay*

11.00 Coffee break

11.30 **Panel discussion** - Jo Boyden, John Bynner, Ian Diamond and Irwin Garfinkel: *What is the point of international comparisons?*  
(Chair: John Hobcraft)

12.45 Lunch (St Catherine's dining hall)

13.45 **Session 5: Growth and weight** (Chair: Shane Norris)

Lise Dubois: *Social inequalities, nutrition, and childhood obesity during the pre-school years: a longitudinal study from Quebec (Canada)*

Laust Mortensen: *Socially patterned variation in birth weight in the Danish National Birth Cohort*

Melissa Wake: *Preschool overweight/obesity in the Longitudinal Study of Australian Children: prevalence, socio-demographic correlates and future data possibilities*

Shane Norris: *Comparison of bone mass accrual and stature between two urban children cohorts from the USA and South Africa*

13.45 **Session 6: Methodology** (Chair: Carol Soloff)  
(Bernard Sunley Building, First Floor, Room D)

Charlotte M Wright: *Fallacies of causation in interpreting longitudinal growth data*

Carli Lessof: *Approaches to maintaining response in child cohort studies*

Carol Soloff: *Enhancing longitudinal studies by linkage to national databases: "Growing Up in Australia", the longitudinal study of Australian children*

15.45 Coffee break

16.15 **Session 7: Child development** (Chair: Jeanne Brooks-Gunn)

Tim Crow: *Cerebral lateralization as the key determinant of verbal and non-verbal ability and psychopathology*

Sarah Stewart-Brown: *Socioeconomic risk, parenting during school years and child health age 6 years*

Jeanne Brooks-Gunn: *Early intervention and early school achievement: findings from the Infant Health and Development Program*

16.15 **Session 8: Local studies from the Americas** (Chair: Kim Harley)  
(Bernard Sunley Building, First Floor, Room D)

Aluísio Barros: *Financing modes of deliveries in the 2004 Pelotas Birth Study*

Kim Harley: *CHAMACOS: A longitudinal cohort study of a Latino farmworking community in Salinas Valley, California*

17.15 **Poster session** (Bernard Sunley Building, Ground Floor Room A)

19.00 Conference dinner (St Catherine's dining hall)

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## Thursday 14 September

08.00 Breakfast (St Catherine's dining hall)

09.00 **Session 9: Neighbourhoods** (Chair: Yvonne Kelly)

Mel Bartley: *Explanations for area inequalities in parents of young children*

Nazeem Muhajarine: *Hospitalization among children 0 to 6 years old: Are there neighbourhood effects?*

09.00 **Session 10: Health** (Chair: Ian Plewis)  
(Bernard Sunley Building, First Floor, Room D)

Lamiya Samad: *MMR uptake in a national prospective cohort: geographical distribution, predictors and parental reasons for declining MMR vaccine*

Ian Plewis: *The effects of income changes and mobility on parents' smoking behaviour*

10.00 Coffee break

10.30 **Keynote speech** - Jonathan Bradshaw: *International differences in policies towards child well-being* (Chair: Rosemary Creeser)

11.30 **Session 11: Mental health** (Chair: Ingrid Schoon)

Rannveig Nordhagen: *Antenatal maternal anxiety and depression and infant development and behaviour at 6 months of age*

Heather Joshi and Kelly Ward: *Mothers' employment and mental health in the first year of a child's life: a contrast between two maternity leave regimes*

Ingrid Schoon: *Family economic stress and child temperament*

- 11.30 **Session 12: Infant mortality and health inequalities** (Chair: Paula Griffiths)  
(Bernard Sunley Building, First Floor, Room D)

Anne-Marie Nybo Andersen: *Socially patterned variations in fetal and infant mortality in the Danish National Birth Cohort*

Paula Griffiths: *Which aspects of socio-economic status are most associated with body composition outcomes at the end of childhood?*

- 13.00 Lunch (St Catherine's dining hall)

- 14.00 **Session 13: Education, health and income** (Chair: Kathryn Duckworth)

Dafna Kohen: *The impact of asthma on children's school functioning*

Seeromanie Harding: *The MRC Determinants of Adolescent Social well-being and Health (DASH) study: a school-based study of young people from different ethnic groups in London*

Kathryn Duckworth: *What role for the 3 Rs? Predicting success at Key Stage 2*

- 14.00 **Session 14: Methodology** (Chair: Carol Dezateux)  
(Bernard Sunley Building, First Floor, Room D)

Ann Sanson: *Research questions and initial findings from the Longitudinal Study of Australian Children*

Carel Thijs: *The need for risk period specific analysis of cohort studies - an illustration from the KOALA Birth Cohort Study*

Suzanne Bartington: *Factors affecting maternal consent to collection of oral fluid in the home setting in the Millennium Cohort Study*

- 15.30 Coffee break

16.00 **Session 15: Family structure and behaviour** (Chair: Elizabeth Cooksey)

Muthanna Samara: *Attention-Deficit Hyperactive Disorder and conduct disorders and involvement in different bullying roles in a British community sample*

Lisa Calderwood: *Ethnic differences in changes in family structure in the UK*

Amanda Koch and Elizabeth Cooksey: *The role of parenting on early adolescent sexual behavior*

16.00 **Session 16: Childcare** (Chair: Lars-Erik Malmberg)  
(Bernard Sunley Building, First Floor, Room D)

Kirstine Hansen: *Grandparental involvement in child-rearing and childcare*

Jennifer Park: *Child care arrangements of children in the Early Childhood Longitudinal Study-Birth Cohort of 2001 (ECLS-B)*

Lars-Erik Malmberg: *The Families, Children and Child Care (FCCC) Project*

17.30 Conference ends



# Oral presentations

## Tuesday 12 September

**(OP = oral presentation)**

This booklet lists presenters only. Please note that many of the papers have multiple authors.

## **Depending on the kindness of strangers: early maternal employment and early childhood education (OP)**

Presenter: Jeanne Brooks-Gunn (Teachers College, Columbia University, USA)

Email: [jb224@columbia.edu](mailto:jb224@columbia.edu)

### **ABSTRACT**

Multi-site and nationally representative longitudinal studies are the coin of the realm for charting the trajectories of child well-being. They are being used increasingly by psychologists as well as by economists, sociologists, demographers and epidemiologists. Scholars from the various disciplines, however, often frame questions and tackle analyses in different ways. Often, these differences lead to disagreements in interpretation and method. This presentation will present two case studies of such situations, the first having to do with possible links between early maternal employment (in the first year of life) and child well-being through the preschool and elementary school years and the second with the efficacy of early childhood education for school success.

In the first case, that of early maternal employment, analyses were originally conducted and reported using the National Longitudinal Study of Youth-Child Supplement (NLSY-CS). We found links between employment in the first year (particularly in the first nine months) and lower vocabulary test scores for white but not black children.

We have pursued the original findings using other large data sets in the US, including the Panel Study of Income Dynamics, the Fragile Families and Child Well-being Study, the NICHD Study of Early Child Care, and the Infant Health and Development Study.

Vis-à-vis the efficacy of early childhood education, results from two randomized evaluations of early intervention will be presented and compared (the Infant Health and Development Program and the Early Head Start Evaluation).

Woven through the presentation will be a discussion of some of the tensions between how more micro-oriented and macro-oriented scholars frame their analyses, and what might be done to reduce them.



**A French national children's cohort (OP)**

Presenter: Henri Leridon (INSERM and INED, France)

Email: leridon@ined.fr

**ABSTRACT**

**Objectives:** The project aims at building a cohort of 20,000 children, nationally representative, to be followed from birth to adulthood under a multidisciplinary approach. It meets the demands of several governmental agencies and of scientists, who underline the lack of multidisciplinary projects gathering several social sciences and epidemiology to analyse properly the origins of situations and behaviours exposing the individuals to health and social risks. The project will include a large health and environment component, as announced in the National Program for Health and Environment of June 2004. It will be co-organized by the French Institutes for Demographic Studies (INED), for Medical Research (INSERM), for Statistical and Economic Studies (INSEE) and the Agency for Disease Surveillance (InVS).

**Methodology:** The sample will be based on the INSEE Demographic Panel which includes all children born during specific days of the year. This allows an easy identification of these children in any other source. Data collection will combine direct and indirect methods. Some data will be directly collected by personal interview at home, by telephone or at school. These data will be combined with those coming from other sources (administrative, educational and social security records...). Individual questionnaires will cover socio-demographic and contextual aspects, to grasp the familial surrounding of the child, and elements of his physical, social and housing environment. On the epidemiological side, the information should include health status, diseases and other problems, food consumption... Biological samples and environmental captors will be collected from at least a fraction of the sample.

**Design priorities and disciplinary perspectives: the case of the US National Children's Study (2007 - 2031) (OP)**

Presenters: Robert Michael and Colm O'Muircheartaigh (Harris School, University of Chicago, USA)

Email: colm@norc.uchicago.edu

**ABSTRACT**

Bitter controversy surrounded a key element of the design of the US National Children's Study (NCS): whether the sample should be obtained from a medical center-based non-probability recruitment process or from a probability-based household sample design. Over a period of 3-4 years, proponents of the two approaches argued their respective merits. Ultimately the decision was taken to use a national household probability sampling design.

The paper will provide a framework within which the controversy can be examined and discuss particular issues that inform the debate. Is greater value to be derived from providing data that allows the testing of previously formulated hypotheses, or from data that maximize the potential for serendipitous findings? Is generalizability of findings to all (or a substantial proportion of) the (finite population of) children born in the USA during the recruitment period a priority? Is universality of findings most important or is the prime value of the data in generating context-dependent results? What is the trade-off between data precision and generalizability? Are representativeness and generalizability interchangeable? At what level do nonresponse and attrition invalidate probability samples?

Finally, the paper will present alternative technical formulations of the two approaches from the perspectives of economists, epidemiologists, and survey samplers.

**Fatherhood involvement with children in the Birth to Twenty Cohort in South Africa (OP)**

Presenters: Linda Richter (University of the Witwatersrand, South Africa) and Lynda Clarke (London School of Hygiene and Tropical Medicine, UK)

Email: [lynda.clarke@lshtm.ac.uk](mailto:lynda.clarke@lshtm.ac.uk)

**ABSTRACT**

Family life in South Africa has been experiencing many recent changes, for example the effects of growing urbanization, migration and, as in many other countries, marriage being postponed or bypassed. Together with the continuing young age of motherhood and many families with a lack of material resources, these changes in relationships have implications for the absence of fathers in children's lives and their welfare.

Birth to Twenty enrolled 3,273 children and their families from Soweto-Johannesburg into a birth cohort in early 1990. More than 70% of these children have been followed up to date, to age 15. This study allows the patterning of father presence, involvement and support over childhood to be monitored for the first time in South Africa. This paper will trace father involvement over childhood up to the age of 14 years, measured by such indicators as co-residence, contact if not co-resident, financial support and co-parenting for different groups of children. It will estimate the factors most likely to be the predictors of a lack of father involvement as well as the implications of father absence in terms of the presence of household amenities, income and medical cover for children and satisfaction with father as caregiver.

Longitudinal analysis allows the differentiation of father involvement and support to be related to mother's relationship status at birth, mother's age, population group and geographical location. Children without support from a father are worse off economically than children with a father present and fare less well on a variety of measures.

## **Comparing early maternal employment in the UK and the US: evidence from the first sweeps of the Millennium Cohort Study and the US Early Childhood Longitudinal Study (OP)**

Presenters: Danielle Crosby (Center for Human Potential and Public Policy, University of Chicago, USA) and Denise Hawkes (Centre for Longitudinal Studies, Institute of Education, UK)

Email: d.hawkes@ioe.ac.uk

### **ABSTRACT**

This paper will examine the correlates of mothers' employment decisions during children's first year of life for recent birth cohorts in the United Kingdom and the United States. The Millennium Cohort Study (MCS) in the UK and the Early Childhood Longitudinal Study – Birth Cohort (ELCS-B) in the US provide extensive data on the well-being of nationally representative samples of children born in 2000/2001. Both studies offer comparable information on child development, family demographics, family process variables and environmental contexts (e.g. neighbourhood, child care). We will investigate how these variables are related to the timing and intensity of early maternal employment, and also consider the possible influence of government policies, given important intra- and inter-national differences in the supports available to working parents.

In both surveys, the first sweep was undertaken when cohort members were 9 months old. These initial data will be used in our analysis and permit us to compare similarly aged children, growing up in the same era, who live in different locations. The MCS consists of 18,552 families sampled to over-represent those who live in areas of high child poverty, areas of high concentrations of ethnic minorities and the Celtic countries of the UK. The ECLS-B is a nationally-representative sample of approximately 10,600 families, with over-samples of several ethnic minority groups, twins and low birth weight children. A secondary purpose of this work will be to speak on the comparability of these datasets for future research.

**Unmarried parents in the US and the UK: commonalities and differences (OP)**

Presenters: Kathleen Kiernan (The University of York, UK)

Email: [kk500@york.ac.uk](mailto:kk500@york.ac.uk)

**ABSTRACT**

This paper compares unmarried mothers in the US and UK during pregnancy and infancy to determine (1) whether there are cross-national differences in the capacities and health behaviors of unmarried mothers in the two countries, (2) whether there are differences in the partnership status and levels of private support for lone mothers in the two countries, (3) whether there are differences in the level of public support for unmarried mothers in the two countries, (4) how the mother's own characteristics affect her mothering behavior, and (4) whether there are differential effects of these variables on unmarried mothers in the two countries.

Our analysis is guided by the general idea that support from biological fathers and extended family members are important factors in determining mothers' capacities and health behavior during pregnancy and the first year after birth. We assume that there is considerable variation among unmarried mothers in partnership status and other sources of support, and that unmarried mothers in the UK receive more public support than unmarried mothers in the US. Further, ethnicity and immigration status play different social roles in the US and the UK and will lead to variation in mothering capacity as well.

## **Studying child development under conditions of demographic change (OP)**

Presenter: Sara McLanahan (Princeton University, USA)

Email: mclanaha@princeton.edu

### **ABSTRACT**

Dramatic changes in family formation occurred in nearly all western industrialized countries during the latter half of the 20th century, leading to important changes in the contexts in which children are raised. This keynote speech will describe these trends and examine their implications, drawing on data from a new US birth cohort study - the Fragile Families and Child Wellbeing Study.

The Fragile Families Study contains several lessons. First, although unmarried parents have “high hopes” for raising their child together, their chances of maintaining stable households are low, due to low economic status and poor health conditions. Second, unmarried parents experience multiple changes in family structure leading to multi-partnered fertility, defined as having children with different partners. Third, union instability and household complexity are associated with lower investments in children.

These lessons have important implications for research on children’s development. For example, they indicate that focusing on the relationship between biological parents or the relationship between parents within a single household is insufficient for understanding the contexts in which children born to unmarried parents are raised. Researchers must consider relationships with social as well as biological parents, and they must be prepared to take account of parental obligations to children outside the household. Similarly, whereas grandparents have often played an important role in helping divorced mothers care for their children, the role of grandparents in fragile families is less well understood and cannot be taken for granted.

# Study profiles: poster reception

## Tuesday 12 September

**(PP = poster presentation)**

This booklet lists presenters only. Please note that many of the papers have multiple authors.

## **The Swiss Etiological Study of Adjustment and Mental Health (SESAM) – design and aims (PP)**

Presenter: Gunther Meinlschmidt (University of Basel, Switzerland)

Email: [gunther.meinlschmidt@unibas.ch](mailto:gunther.meinlschmidt@unibas.ch)

### **ABSTRACT**

Mental health has become a vital issue for the society. The enormous costs of health care as well as the massive individual impact make it imperative to understand the pre-disease pathways leading to the development of mental disorders and maladjustment. SESAM aims to open the door to a breakthrough in understanding the development of mental health and adjustment to the social, psychological, and biological environments in which we live. The study will focus on the complex multi-directional interactions of psychosocial and genetic-biological variables across time and between generations, by combining biogenetic, longitudinal, cross-sectional, and experimental approaches in a coherent interdisciplinary strategy. Beginning with pregnancy and including the entire “risk period” for the development of most mental disorders, a large non-treatment population sample of 3,000 children (birth 2007-2009) will be followed over 20 years together with their parents and grandparents at multiple sites in Switzerland. By adding an experimental manipulation of the nurture component of the assumed etiological factors (i.e., preventive intervention modules in defined high-risk subjects), causal understanding will be enhanced. Among the special conditions that Switzerland offers for SESAM are an excellent technical and societal infrastructure, low mobility of the population, and the long-term perspective of the Swiss National Center of Competence in Research (NCCR) program. Using Switzerland’s unique infrastructure, the NCCR will yield a valuable data pool for scientists, public policy developers, and the future generation. Funding by the Swiss National Science Foundation will be complemented by other research institutions and funding agencies.



**Designing a new longitudinal study of New Zealand children and their families (PP)**

Presenter: Susan Morton (The University of Auckland, New Zealand)

Email: s.morton@auckland.ac.nz

**ABSTRACT**

A new longitudinal study which intends to follow the development of a representative group of New Zealand children from birth through to early adulthood is currently being designed.

The proposed study is an inter-sectoral government initiative led by the Ministry of Social Development in partnership with the Health Research Council, and is in line with recent investments in longitudinal studies by governments internationally. An 18 month contract has been awarded to a University of Auckland led team of researchers to develop a detailed design and implementation plan for the first two years of the study.

The study would investigate multi-level influences on trajectories of development for New Zealand children in the context of their families and wider environment, to provide a robust evidential base for actions that optimise outcomes for New Zealand children. More specifically, the value and timeliness of a new multidisciplinary longitudinal study is seen to lie in its ability to incorporate current advances in understanding of human development, including epigenetics and intergenerational influences; to provide an opportunity to investigate factors that promote resilience rather than focusing on poor outcomes; and importantly to reflect the multi-ethnic diversity of New Zealand in the 21st century.

There are several unique aspects to this exciting initiative. Firstly, the inter-sectoral governmental support for the study and the longer term opportunities to inform the development of public policy. Secondly, the multi-ethnic and multi-disciplinary nature of the research, and thirdly the challenges and opportunities in terms of sharing expertise and facilitating comparisons internationally.

**Small country, big survey: the development of the Growing Up in Scotland Study (PP)**

Presenters: Simon Anderson, Paul Bradshaw (Scottish Centre for Social Research) and Fiona McDiarmid (Scottish Executive)

Email: p.bradshaw@scotcen.org.uk

**ABSTRACT**

The Growing Up in Scotland study is a major new longitudinal project, funded by the Scottish Executive. Focussing initially on a cohort of 5,000 0 to 1-year-olds and a cohort of 3,000 2 to 3-year-olds, the first wave of fieldwork began in April 2005. The intention is to revisit families annually to the age of 5 and then at key transition points thereafter. The study is being carried out by the Scottish Centre for Social Research in collaboration with the Centre for Research on Families and Relationships, an academic consortium from Glasgow Caledonian University and the Universities of Edinburgh, Glasgow, Aberdeen and Stirling.

This paper will describe the origins of the study, outline the ways in which it differs from some of the other UK cohort studies (such as the Millennium Cohort Study) and look at the challenges involved in designing a project of this kind to meet the needs of early years policy-making within a devolved Scotland. Some of these challenges include managing the design difficulties associated with an immediate demand for cross-sectional data and planning for longitudinal analysis; balancing competing priorities across different policy interests while maintaining a 'whole child' perspective; ensuring sufficient resources are available for the long term management and utilisation of the study; and successfully harmonising academic and policy perspectives.

**Children of the National Longitudinal Survey of Youth/1979 (USA) (PP)**

Presenter: Paula Baker (Center for Human Resource, The Ohio State University, USA)

Email: baker.21@osu.edu

**ABSTRACT**

The Children of the NLSY79 is an ongoing survey that profiles the development and achievement of the children of the mothers in the National Longitudinal Surveys of Youth/79 Cohort. The NLSY79 is a nationally representative sample of 12,686 males and females who were age 14-21 in 1979. Started in 1986 and repeated biennially, the NLSY79 Child is sponsored by the US Department of Labor with support from NICHD. The surveys use mother report and direct assessment to gauge the children's cognitive ability, temperament, motor and social development, behavior problems, self-competence, and home environment, as well as each child's pre- and post-natal care and health. Children 10 and older report on: child-parent interaction, family decision-making, school attitudes, work activities, peer relations, computer use, TV viewing, community service, attitudes, religion, substance use, and sexual activity. Young adult children 15 and older (YA) are interviewed about schooling, employment, training, family experiences, health, attitudes, substance use, sexual activity, non-normative behavior, and social activities. The NLSY79 Child/YA, which numbers more than 7500 at the last survey round, ranges in age from birth to over age thirty. The Child/YA file contains all assessment scores and questionnaire items, as well as constructed variables related to family background, fertility, pregnancy history, childcare, and maternal employment. Any item from the mother's main NLSY79 file can be linked to the child and young adult records. Response rates continue to exceed 90% for the Child and 85% for the YA. NLS data and documentation are available at no charge at <http://www.nlsinfo.org/web-investigator>.

## **Minimizing losses to follow-up in the 2004 Pelotas Birth Cohort Study (PP)**

Presenter: Aluísio Barros (Epidemiologic Research Centre, Federal University of Pelotas, Brazil)

Email: abarros@epidemio-ufpel.org.br

### **ABSTRACT**

In the 1st January 2004, a third birth cohort was started in Pelotas, South Brazil, with a perinatal study. All deliveries occurring in the city were surveyed and those mothers residing in the urban area were invited to participate. During the whole year 4260 deliveries were identified, of which 99% (4231) were included in the study. In order to minimize losses to follow-up addresses of home, work and a close relative were recorded along with telephone numbers. Mobile phone numbers were also recorded including the mother's own, the father's and at least another close relative or friend. The mothers also received a participation certificate and were informed that they would be contacted again in three months. At the 3-month visit the contact information was updated, and the children received a t-shirt bearing the study name and logo. Mothers presenting themselves at our office received transportation fees and a pack of nappies. The mothers were informed that the next visit would be at the child's first birthday. At this point, the children were offered a hat as gift. In all visits the mothers were contacted beforehand to schedule the visit, or at least to determine the most convenient times. After the visits, 50% of the mothers who had a telephone were contacted for quality control and assessing the mother's satisfaction towards the interviewer. As a result, losses to follow-up were kept very low: 5.8% at the 12-month visit. Most losses (75%) were due to the mother moving from the city.

**Korean Youth Panel Survey (PP)**

Presenter: Hye-Jeong Baek (Korea Institute for Youth Development)

Email: hbaek@youthnet.re.kr / hbaek@unitel.co.kr

**ABSTRACT**

The Korean Youth Panel Survey aims to explore tendencies among Korean adolescents in career development and deviant behaviors, and to develop socio-cultural measures to address them. Data are collected annually from across the nation except Jeju island (every last quarter of the year, i.e. from mid-October through mid-December). Using a prospective panel survey design, two cohorts were selected, with a class per school sampled by region forming panel members of each cohort. The schools were randomly sampled in line with population rate based on proportionate probability sampling. A survey of the first cohort of three thousand 8th graders (mean age=13 years old) started in 2003, followed by a survey of the second cohort of 2,500 4th graders (mean age=9 years old) in 2004. Both surveys continue until 2008 and the target sample sizes are 750 for the first and 1,000 for the second cohort respectively, based on the assumption that the loss rate is 15% each year. However, the loss rate for the first cohort in the second year (2004) was 6%.

The questionnaire for data collection consists of two parts; one for the panels and the other for their custodians - usually one of their parents. For the panels, an interviewer in charge individually meets panel members in person and asks them to fill in the self-reported questionnaire and edits it straight away. For the custodians, the same interviewer conducts a telephone interview based on a structured questionnaire. Items of the questionnaires for the two cohorts are almost identical.

## **National Longitudinal Survey of Youth/1997 Cohort (USA) (PP)**

Presenter: Elizabeth Cooksey (The Ohio State University, USA)

Email: cooksey.1@osu.edu

### **ABSTRACT**

A poster on the latest US National Longitudinal Survey of Youth. Over 8000 youth between the ages of 12 and 16 were first interviewed in 1997 and they have been interviewed annually since. This represents the most recent nationally representative data on adolescents in the US and information is wide ranging (e.g. schooling, family, labour market experiences, risky behaviours and parenting practices are just a few of the potential topics that researchers could study with these data).

## **The National Children's Study (PP)**

Presenter: Adolfo Correa (Centers for Disease Control and Prevention, USA)

Email: [acorrea@cdc.gov](mailto:acorrea@cdc.gov)

### **ABSTRACT**

The National Children's Study (NCS) will be the largest long-term study of children's health and development ever conducted in the United States. The NCS will examine a broad range of environmental influences on children's health and development. It will follow approximately 100,000 children, measuring exposures and health outcomes from before birth to age 21, to better understand the link between the environments in which children are raised and their physical and mental health and development.

Priority health outcomes for the NCS include pregnancy outcomes, asthma, injury, child development and mental health, obesity, diabetes and physical growth. Environment is defined broadly including physical, chemical, psychosocial, biological and genetic factors. The study is based on a national probability sample of US births anticipated from 2007-2011. At full implementation study centers will recruit and enroll eligible participants in more than 100 locations across the US. The first set of six research centers (Vanguard Centers) and a Coordinating Center were announced on September 29, 2005.

The NCS is a collaborative effort lead by the US Department of Health and Human Services and the US Environmental Protection Agency with a host of public and private partners committed to improving children's health as contributors. More information about the study is available on our website: [www.nationalchildrensstudy.gov](http://www.nationalchildrensstudy.gov) and you can join our Study Assembly to receive study updates by email by registering on our home page.

## **The Lifeways Cross-Generation Cohort Study: study design and considerations behind it (PP)**

Presenters: Una Fallon / Cecily Kelleher (University College Dublin, Ireland)

Email: una.fallon@ucd.ie

### **ABSTRACT**

**Background:** The Lifeways study is a cross-generation cohort study comprising three generations of the same family. Its goal is to identify opportunities for development, change and improvement in the healthcare and well-being of the Irish population.

**Aims:** 1) To determine health status, diet and lifestyle of the mother, father, index child and grandparents and to establish patterns and links across generations, 2) To examine how socio-economic factors, particularly means-tested free primary care, influences health during the first five years of a new-born's life, 3) To document primary care utilisation patterns across the social spectrum and across generations, 4) To examine risk factors for cardiovascular disease in Ireland.

**Methods:** Between October 2001 and Jan 2003, 1124 pregnant women were recruited in the ante-natal clinics of two large Irish teaching hospitals, the Coombe Hospital Dublin and University College Hospital, Galway. Sampling insured both urban and rural communities were included. 1088 babies were born to 1076 mothers. Fathers (n=331), maternal grandparents and paternal grandparents (n=1231) were subsequently recruited. The study is now comprised of 520 three-generation families. Data includes; baseline lifestyle information on mothers, fathers and grandparents; electronic mother and child ante-natal/birth hospital records; grandparent examination and biological data; patient-held records for a sub-sample of children; general practice follow-up data and immunisation records of all infants/children.

**Conclusion:** Lifeways is unique in Ireland as it can link health information from the ante-natal stage through childhood but is also highly novel in international terms, being one of few studies with information across three generations.



**A description of the Canadian National Longitudinal Survey of Children and Youth (PP)**

Presenters: Dafna Kohen (Health Analysis and Measurement, Statistics Canada) and Stephanie Lalonde (Institute of Population Health, University of Ottawa, Canada)

Email: dafna.kohen@statcan.ca

**ABSTRACT**

The Canadian National Longitudinal Survey of Children and Youth (NLSCY) is a government funded national database designed to examine the characteristics and life experiences of children and youth in Canada from infancy to adulthood. The original cohort was aged 0-11 in 1994-5 (n=25,782) and longitudinal data has been collected on this sample of children every two years. The NLSCY currently has 5 cycles (10 years) of data released.

The specific objectives of the survey included 1) estimating the prevalence of various biological, social, and economic characteristics and risk factors of children and youth in Canada, 2) to monitor the impact of such factors on the development of children, and 3) to provide information to policy makers for use in designing effective policies to health young people live healthy and rewarding lives.

This submission will consist of a description of the NLSCY, including an overview of the survey methodology (population, sample design, sample size), data collection, as well as information about the content (child, parent, teacher, principal), validation, and issues of confidentiality and accessibility of the data.

**A national birth cohort in France (the ELFE project): methodological aspects (PP)**

Presenter: Henri Leridon (INSERM and INED, France)

Email: leridon@ined.fr

**ABSTRACT**

The ELFE project is a longitudinal study of a generation of 20,000 children, nationally representative, over a period of 20 years. This project aims to build a data base on the characteristics and life experience of children from birth to adulthood

The cohort will be based on the INSEE demographic panel (EDP), resulting from the use of the census and the registration of vital events. It will be constituted of children born on specific days of the year. There are two key features in the project. One will result from the fact that the members of the cohort will also serve as the sample to surveys that are usually of a cross-sectional nature: the national perinatal survey, the assessment tests carried out at some ages in the school system, the follow up of scholastic achievements. Since all children will be born on specific days, it will be easy to identify them in the school population. The other one is that it will pair at other data sources, mainly those of the Social Security system and of the family allowances system.

Interviews will be taken by interviewers at home, by telephone and at school. Biological samples will be collected, at least at the maternity. Environmental measurements will also be taken, and the geographical location of the residence will be linked to data available on the expositions to air and water pollution.

## **The Child Development Supplement (CDS) to the Panel Study of Income Dynamics (PSID) (PP)**

Presenters: Tina Mainieri, Jacque Eccles and Bob Schoeni (Institute for Social Research, University of Michigan, USA)

Email: [tmainier@umich.edu](mailto:tmainier@umich.edu)

### **ABSTRACT**

The Child Development Supplement (CDS) to the Panel Study of Income Dynamics (PSID) is a nationally representative, longitudinal study of children and their families in the United States. Children 0-12 years from PSID families were first sampled in 1997 and re-interviewed in 2002. The study achieved response rates of 88% for CDS-I, providing data on 3,563 children in 2,394 families, and 91% for CDS-II, providing data on 2,907 children in 2,019 families still active in the PSID panel at that time.

The CDS collects comprehensive time diaries, age-graded assessments of cognitive and behavioral development, health status indicators, and extensive data on family processes from the children, primary and secondary caregivers in the home, and teachers. CDS also provides linkages to national data on schools and census-based data on neighborhoods.

The combined PSID-CDS archive offers substantial demographic, health, and economic data about the children's parents, grandparents, and other family members. The PSID has achieved 94%-97% response rate each wave for nearly four decades. Given its genealogical sample design, the CDS youth will eventually become future 'active panel' of the PSID when these youth establish a household of their own. Detailed data on their adult lives will be collected at that point.

Plans for a third wave of CDS are underway. This year (2005), we are piloting a telephone interview with CDS youth 18 years and older. The interview focus is on experiences with transitions in schooling, work, and family formation, expectations and goals, achievement and emotional and social well-being.

## **The Norwegian Mother and Child Cohort Study (PP)**

Presenter: Wenche Nystad (Norwegian Institute of Public Health)

Email: wenche.nystad@fhi.no

### **ABSTRACT**

**Background:** The causes of the many diseases and complications that can arise during pregnancy are largely unknown, for example still births or serious congenital abnormalities. We know little about why some births occur prematurely. For many diseases that occur throughout childhood, such as diabetes, autism, cancer, rheumatism and allergy our knowledge is very incomplete.

**Objective:** To perform research along several pathways covering most of the new hypothesis to date to calculate the association between different exposures and several endpoints.

**Subjects and methods:** 100,000 pregnant women will be recruited between 1999 and 2007. The women are included through attending the routine ultrasound examination in the 17th week of pregnancy. They fill in three questionnaires during the pregnancy and four during the first 6 years after birth. The father fills in one questionnaire. Blood samples are taken: a) from the mother and father in the 17th week of pregnancy, b) at birth from the umbilical cord and a second sample from the mother. Linkage to health registries or exposure registries and the analysis of blood samples will enable the generation of new data sets, which have a cohort design or a nested case-control design. No intervention will be undertaken.

The presentation will include the recruitment procedures and participation rates.

## **The design of the Danish National Birth Cohort and considerations behind it (PP)**

Presenter: Presenter: Anne-Marie Nybo Andersen (National Institute of Public Health, Denmark)

Email: [ana@niph.dk](mailto:ana@niph.dk)

### **ABSTRACT**

The time of conception to early childhood influences health conditions that reach into later stages of life. Recent research supports this view for diseases such as cardiovascular morbidity, cancer, mental illness, asthma, and allergy. Exposure during this period, which influence fetal growth, cell divisions, and organ functioning may have long lasting impact on health and disease susceptibility.

Denmark has unique possibilities of doing long term follow up studies on health outcome due to the existence of a large number of population-based health registers and a personal identification number used in all public registers. For these reasons we established the Danish National Birth Cohort (DNBC) that holds data from 100,000 pregnant women and their offspring, including data on life style habits, environmental exposures, socio-economic factors, diet, and usage of medicine. The study all has a biobank with blood from the mother and the child. We are now in the process of collecting data on common diseases and update our exposure data for the first 7 years since birth on the children in the cohort.

Women were recruited to the cohort as early in pregnancy as possible by collaborating with family doctors (FD). About 50% of all FDs took part in this recruitment. We estimate that about 60% of those invited gave informed consent. More information on the cohort as well as access to cohort data and a list of publications that have been published from the cohort can be obtains at our website [www.bsmb.dk](http://www.bsmb.dk).

**An overview of the Early Childhood Longitudinal Study-Birth Cohort of 2001 (ECLS-B) (PP)**

Presenter: Jennifer Park (US Department of Education)

Email: [jennifer.park@ed.gov](mailto:jennifer.park@ed.gov)

**ABSTRACT**

The ECLS-B is a US 2001 birth cohort study of approximately 10,000 children designed to measure factors relating to school readiness. It is sponsored by the National Center for Education Statistics (NCES) of the US Department of Education, and several other US federal research agencies. The study follows children from infancy (birth certificate data and data at 9-months), through toddlerhood (2-years) and preschool (4-years), to kindergarten entry (5 and 6 years). Direct cognitive, physical and socioemotional assessments are conducted at each wave. Data related to early learning experiences are collected from parents (mothers and fathers), child care providers, teachers, and school administrators. Additionally, mother-child interactions are measured via videotape, and trained observers measure classroom observations. Oversamples of low and very low birth weight and twin children facilitate reliable statistical estimation for these groups.

This paper will complement a poster overview by providing an overview of the study and sample designs, followed by a report on data collected and analyzed to date, and special issues regarding data storage and security with strategies for addressing these issues.

**Environment and child health: the INMA Spanish study (PP)**

Presenter: Núria Ribas-Fitó (Institut Municipal d'Investigació Mèdica, Barcelona, Spain)

Email: nribas@imim.es

**ABSTRACT**

The INMA (Infancia y Medio Ambiente (=Spanish for Environment and Childhood)) is a population based cohort study in different Spanish cities, that focuses on prenatal environmental exposures and growth, development and health from early foetal life until childhood. The study focuses on five primary areas of research: (1) growth and physical development; (2) behavioural and cognitive development; (3) asthma and allergies; (4) sexual and reproductive development; and (5) environmental exposure pathways. The general aims of the project are: 1. To describe the degree of individual prenatal exposure to environmental pollutants, and the internal dose of chemicals during pregnancy, at birth and childhood in Spain; 2. To evaluate the impact of the exposure to different contaminants on foetal and infants' growth, health and development; 3. To evaluate the role of diet on foetal and infants' growth, health and development; and 4. To evaluate the interaction between persistent pollutants, nutrients and genetic determinants on foetal and infant growth, health and development. Extensive assessments are going to be carried out on 3300 pregnant women and children. Data are going to be collected by physical examinations, questionnaires, interviews, ultrasound and biological samples. Pregnant women are being assessed at 10-13, 20 and 28-32 weeks of gestation to collect information about environmental exposures and foetal growth. The children will be followed until the age of 4.

**Birth to Twenty: a birth cohort study of children and families in Soweto-Johannesburg (1989- ) (PP)**

Presenter: Linda Richter (Child Youth and Family Development, Human Sciences Research Council, South Africa)

Email: [Lrichter@hsrc.ac.za](mailto:Lrichter@hsrc.ac.za)

**ABSTRACT**

Birth to Twenty (BT20) was initiated in 1989 to track the impact of urbanization on children in South Africa at a time of demographic, health and political transition. While protein-energy malnutrition, infant and young child mortality and infectious diseases were declining, other health and social problems were on the increase, including injuries and accidents, exposure to toxins, the movement of women into the labour force and the increase of out-of-home child care. Following three pilot studies, the birth dates for cohort enrolment were set for 7 weeks following Nelson Mandela's release from prison in early 1990. More than 3 200 children and their families have been tracked, from before birth (in the third trimester of pregnancy). The cohort is now 15 years old and the third generation is starting to be born. By October 2005, more than 10 BT20 girls had given birth to babies.

Although specialist studies have been attached to the cohort at various stages of the project, the major focus of BT20 is on nutrition and growth, psychosocial development, care and education, context and environment and methodological issues. The cohort has been assessed 16 times since enrolment during pregnancy, twice a year in the most recent waves, 13 to 15 years of age. The annual attrition rate is 1.9% (and will be reported on separately at the conference).

The current emphasis in the study is on sexual and lifestyle risk factors that predispose young people to sexual and reproductive ill-health and chronic diseases.



## **Growing Up in Australia – the Longitudinal Study of Australian Children (PP)**

Presenter: Ann Sanson (University of Melbourne/Australian Institute of Family Studies)

Email: [annvs@unimelb.edu.au](mailto:annvs@unimelb.edu.au)

### **ABSTRACT**

Growing Up in Australia or the Longitudinal Study of Australian Children (LSAC) is a national longitudinal study of children's development and wellbeing. The first wave of data collection was completed in 2004, on 5107 infants (born in 2003-2004) and 4983 4-5 year olds (born in 1999-2000); the second wave is taking place in 2006. Funded by the Australian Government Department of Family and Community Services, it represents the largest ever Australian government investment in data to inform policy and practice around early childhood development.

The study is being implemented by a consortium of nine leading research institutions, led by the Australian Institute for Family Studies, and involves researchers from many disciplines. It is gathering data on all aspects of a child's functioning (physical, emotional, social and cognitive) and on many aspects of their environment (family, child care, school, community). Data is gathered through interviews in the home with the primary parent, self-complete questionnaires for both parents, questionnaires for child care providers and teachers, direct child assessment, a 2-day time-use diary, and some linked data. Data are available to all bona fide researchers.

**The child cohorts of the Faroe Islands (PP)**

Presenter: Pál Weihe (Department of Occupational Medicine and Public Health, Faroe Islands)

Email: pal@health.fo

**ABSTRACT**

The Faroe Islands is a community of 48.000 in the North Atlantica. A part of the traditional marine diet consists of pilot whale meat and blubber. The meat is contaminated with methylmercury and the blubber with POPs, mainly PCB and DDE. During the last twenty years, a total of three cohorts of new-born have been established and followed prospectively.

Cohort 1: 1022 singleton births during a 21-month period of 1986-1987. The range of mercury concentrations in cord blood and maternal hair was about 1000-fold. The first detailed examination (neuropsychological, neuro-physiological and neuro-pediatric) took place at age 7 years, i.e., just before school entry. A total of 917 of the eligible children (90.3%) completed the examinations. The children were reexamined at age 14, again with a similar participation rate.

Cohort 2: 182 singleton births during a 12-month period in 1994-1995. These children were examined by the Neurological Optimality Score at age two weeks and 42 months, adjusted for gestational age, and then again with developmental tests at 7 months of age. Subsequent neuropsychological examinations were at age 18 months and then at 12 - 24 month intervals up to age 10 years.

Cohort 3: 650 children born during 1998-2000. A comprehensive medical examination took place of the age of two weeks and five years, including Neurological Optimality Scores. In 2005 -7 the cohort will be re-examined with the same test battery as used in the other cohorts at the same age, and the antibody response to routine childhood vaccinations will be studied.

**The use of administrative data for child cohort studies (PP)**

Presenter: Susan Dahinten (University of British Columbia, Canada)

Email: dahinten@nursing.ubc.ca

**ABSTRACT**

In this poster presentation, we describe ways in which 'linkable' population-based, person-specific and longitudinal administrative data are being used at the Child and Youth Developmental Trajectories Research Unit (CYDTRU) in British Columbia, Canada for child cohort research. CYDTRU's current research program objectives are to develop and describe the various trajectories of health and educational outcomes that are typical of children in British Columbia, to develop an understanding of factors at the individual, family, school, and neighbourhood levels (and their interaction) that influence children's trajectories, and to translate this knowledge for practical application. Our research currently draws on longitudinal administrative data describing school readiness, education, and health (from pregnancy through to the elementary school years), along with neighbourhood socioeconomic (census) data. The advantages and challenges of using administrative data for research purposes will be discussed, along with a description of the infrastructure that has been developed to support such research. We will also provide findings from recent analyses linking school readiness data from approximately 5,500 children (in kindergarten during 1999-2000 or 2000-2001) with their performance on Grade 4 Foundation Skills Assessment tests to illustrate how the linkage of administrative data can advance our understanding of children's health and development.

## **The Jamaican birth cohort studies (PP)**

Presenter: Maureen Samms-Vaughan (Section of Child Health, University of the West Indies)

Email: [msamms@cwjamaica.com](mailto:msamms@cwjamaica.com)

### **ABSTRACT**

**Background:** Comprehensive birth cohort studies have been shown to provide useful information for strategic planning purposes, yet few such studies are conducted in developing countries.

**Objective:** To describe the methodology and uses of the Jamaican Birth Cohort Studies (JBCS).

**Subjects and methods:** The JBCS identified 94% of births islandwide in September-October 1986. Data were obtained from maternal medical records, maternal interview and newborn examination. The first follow-up study at 6 weeks identified 85% of the original cohort. At ages 11-12 years and 15-16 years, cohort children in the urban areas of Kingston and St. Andrew were identified from school records. Parents completed socio-economic, health and behaviour questionnaires; teachers completed behaviour questionnaires. Children completed behaviour questionnaires, cognitive and academic tests and had anthropometry. Cohort members are currently being seen at 18-19 years to examine the impact of early life experiences on health.

**Results:** Cross-sectional data at birth ( $n=10,527$ , variables = 1,215); 6 weeks ( $n= 8,876$ , variables = 227); 11-12 years ( $n=1,720$ , variables = 1,300) and 15-16 years ( $n=1,565$ , variables = 2,000) have yielded accurate perinatal mortality and morbidity, low birth weight, school achievement and other population based health and educational data and their relationship with social and environmental factors, not previously available. The fifth contact point, currently in progress, has already identified 500 young persons at 18-20 years. Longitudinal effects, linking early life impact on child and early adult outcomes are now being investigated.

**Conclusions:** Developing countries can conduct birth cohort studies to provide population specific information to guide utilisation of scarce resources.

**The Quebec Longitudinal Study of Child Development (QLSD – Canada): a general description (PP)**

Presenter: Josette Thibault (Institut de la Statistique du Québec, Canada)

Email: [bertrand.perron@stat.gouv.qc.ca](mailto:bertrand.perron@stat.gouv.qc.ca)

**ABSTRACT**

The main objective of the Québec Longitudinal Study of Child Development (QLSCD) is to identify factors that, coming into play during early childhood, affect the social adjustment and academic performance of young Quebecers.

The first round of the QLSCD was conducted in 1998 on a cohort of 2,120 infants who were to be followed annually from 5 months to about 4 years of age (Phase 1). The sample represents children born in Québec in 1997-1998 (single births). After the fifth data collection in 2002, the sample size reached 1,944 respondents.

The second phase (2003-2010) continues to collect data using a computerized questionnaire and paper instruments to the parents. Cognitive tests are still administered to the children, who also have to respond to a questionnaire, and teachers are now approached to respond to a questionnaire.

Data collection will be carried out once a year from 2003 to 2006, and then biannually (2008 and 2010) to the end of primary school when children will be 12 years old. A total of 1,528 respondents participated to the latest data collection in 2005.

The content and methodological specifications are determined by the Institut de la statistique du Québec and its financial partners in this project : the Québec ministry of Health, the Québec ministry of the Family, and the Lucie and André Chagnon Foundation. The ministry of Education and academic researchers from the Groupe de Recherche sur l'Inadaptation Psychosociale (GRIP) also contribute. The scientific director is Dr. Richard E. Tremblay from Université de Montréal.

**Born in Bradford (PP)**

Presenter: Neil Small (University of Bradford, UK)

Email: n.a.small@bradford.ac.uk

**ABSTRACT**

Study site and design: Bradford is the fifth largest metropolitan area in the UK and the eighth most deprived health community. Around 50% of 5,500 babies born in the City each year are of South Asian origin. Funding has been obtained from the UK Department of Health and Higher Education Funding Council and from European Union sources to establish a multi-ethnic birth cohort. The study team includes the cities NHS Trusts and the Universities of Bradford and Leeds. From October 2006 all pregnant women accessing health care services in Bradford will be invited to join the cohort study. The aim is to recruit all babies born over a 24 month period ie potentially 11,000. Focus will be given to utilising routinely collected data and biological samples.

A parallel study, using the same protocols, is planned in the Mirpur region of Pakistan – the “home” area for the majority of Bradford’s migrant population.

Research aims: The first research goal be to investigate the factors that influence birth weight and childhood growth. The high prevalence of low birth weight in babies of South Asian origin has major implications for health.

Other potential research areas include:

1. Utilising biomarkers to identify connections between environment/dietary exposure and childhood disease.
2. Assessing links between social capital and the epidemiology of maternal and childhood morbidity and mortality
3. Undertaking public health intervention trials – for example dietary supplements.
4. Describing the epidemiology of chronic disease (CHD, diabetes etc) in the parents of the birth cohort.

**National Longitudinal Study of Children in Ireland (NLSCI) (PP)**

Presenters: James Williams (Economic and Social Research Institute, Ireland) and Sheila Greene (Trinity College Dublin, Ireland)

Email: james.williams@esri.ie

**ABSTRACT**

The National Longitudinal Study of Children in Ireland is being undertaken by a team of researchers led by Professor James Williams (from the Economic and Social Research Institute) and Professor Sheila Greene from Trinity College Dublin. The project is funded by the Department of Health and Children.

The study will, in the first instance, run over 7 years and will involve interviewing 8,000 9-year old children and their families as well as the families of 10,000 9-month-old infants. Fieldwork on both cohorts will start in 2007. The older cohort will be interviewed at 9 and 13 years; the infant cohort at 9-months and 3 years. A third sweep of the infant cohort may take place at 5 years of age.

The study will examine the factors which contribute to or undermine the well-being of children in contemporary Irish families. Specifically, it will:

- Describe the lives of children in Ireland, establishing what is typical and normal as well as what is atypical or problematic.
- Chart the development of Irish children over time, examining their progress and well-being at critical periods from birth to adulthood.
- Establish the effects of early child experiences on later life.
- Identify persistent adverse effects that lead to social disadvantage and exclusion, educational difficulties, ill health and deprivation.

The NLSCI will have a very strong policy focus and will substantially contribute to the formulation of effective and responsive policies as well as the design of services relating to children and their families.

**The Generation R Study: study design and cohort profile (PP)**

Presenter: Vincent Jaddoe (Erasmus MC, Generation R, The Netherlands)

Email: v.jaddoe@erasmusmc.nl

**ABSTRACT**

The Generation R Study is a prospective population-based cohort study from fetal life until young adulthood. The study is designed to identify early environmental and genetic causes of normal and abnormal growth, development and health from fetal life until young adulthood. The study focuses on four primary areas of research: 1) growth and physical development, 2) behavioural and cognitive development, 3) diseases in childhood and 4) health and healthcare for pregnant women and children. In total, 9,813 mothers with a delivery date from April 2002 until January 2006 were enrolled in the study. Of all eligible children at birth, 60% participate in the study. Data collection in the prenatal phase included physical examinations, questionnaires, fetal ultrasound examinations and biological samples. In addition more detailed assessments are conducted in a subgroup of 1,223 pregnant women and their children. The children form a prenatally recruited birth-cohort that will be followed until young adulthood. Eventually, results forthcoming from the Generation R Study have to contribute to the development of strategies for optimising health and healthcare for pregnant women and children. In the poster session at the conference the cohort profile, response rates and first results will be presented.



**Millennium Cohort Study (MCS) (PP)**

Presenter: Kate Smith (Centre for Longitudinal Studies, Institute of Education, UK)

Email: k.smith@ioe.ac.uk

**ABSTRACT**

The Millennium Cohort Study (MCS) is based on a sample of babies born in England and Wales between September 2000 and August 2001, and in Scotland and Northern Ireland between December 2000 and January 2002. It was drawn from a random sample of electoral wards, disproportionately stratified to ensure adequate representation of all four UK countries, deprived areas and areas with high concentrations of Black and Asian families. The MCS sample design differs from that of its predecessors (NCDS and BCS70) in that it took a whole year's births, and covers the whole of the United Kingdom.

Interviews for the first survey (MCS1) were carried out when the children were 9-10 months old. Key areas covered include: pregnancy, labour and delivery; baby's health and development; childcare and social support; parental health; education and training; employment and earnings; ethnicity and language; housing, local community and services; baby's temperament and behaviour.

Fieldwork for the second survey (MCS2) took place around the time of the children's third birthdays (September 2003 to April 2005). Interviews were undertaken with the cohort members' parents, the children and their older siblings.

MCS aims to chart the social, economic and health advantages and disadvantages facing children in the new century. It will collect information on previously neglected subjects, such as father's involvement, child care and obesity, and provide evidence for UK policy and comparisons with other cohorts.

## **Childhood poverty in Andhra Pradesh: an analysis based on the Young Lives Study (PP)**

Presenter: Sheik Galab (Centre for Economic and Social Studies, Hyderabad, India)

Email: [sgalab@cess.ac.in](mailto:sgalab@cess.ac.in)

### **ABSTRACT**

A recent study in Andhra Pradesh, India, concluded that achieving the poverty-related Millennium Development Goals (MDGs) by 2015 is possible. Nonetheless, a considerable proportion of households will be left behind. Who are these poor left behind? Are they chronically poor? This paper focuses on the Chronic Poverty Framework (CPF) which links childhood poverty with household poverty. Chronic poverty describes the condition of people who are poor for significant periods of their lives, who may pass their poverty onto their children, and for whom finding exit routes from poverty is difficult.

Childhood poverty in Andhra Pradesh is currently being analyzed through the Young Lives study, a multi-country, longitudinal research effort based at the University of Oxford. In India, the study is being implemented through the Centre for Economic and Social Studies, Hyderabad, and follows the lives of 2000 young people, from the time they are around six months old until they reach the age of fifteen. Children and their primary caregivers will be administered questionnaires every three to four years, encompassing a range of topics in relation to the children – their care, health, nutrition, schooling, labour, mental health, networks, and livelihoods. With the first round of interviews already completed (2002) and the second round scheduled for July 2006, this paper will draw on the child and caregiver questionnaires to discuss how the Chronic Poverty Framework sheds lights on child poverty in India.

## **The KOALA Birth Cohort Study – aims and design (PP)**

Presenter: Carel Thijs (Maastricht University, The Netherlands)

Email: [c.thijs@epid.unimaas.nl](mailto:c.thijs@epid.unimaas.nl)

### **ABSTRACT**

This birth cohort study aims at studying determinants of:

1. Atopic diseases (eczema and food allergy, wheezing and asthma)
2. Growth and overweight
3. Neuropsychological development

Pregnant women (n=2343) were recruited from an ongoing prospective cohort study on pregnancy-related pelvic girdle pain. We enriched the cohort with alternative lifestyles to increase the contrast in interesting exposures, by recruiting an additional group of pregnant women (n=491) through organic food shops, anthroposophic doctors and midwives, Steiner Schools, and dedicated magazines. All participants were enrolled between 14-18 weeks of gestation and completed repeated questionnaires during pregnancy and infancy. Questionnaires up to 2 years of age focussed mainly on (determinants of) atopic manifestations and neuropsychological determinants.

A subgroup of participants was asked to consent to maternal blood sampling, a breast milk and a faecal sample of the infant at 1 month postpartum, capillary blood at age 1 year, venous blood at the age 2 years, and buccal swabs for DNA isolation from child-parent trios.

At age 5 years questionnaires focus on (determinants) of dietary habits and physical activity. A subsample of children receives an actometer (Actigraph) to measure physical activity over a typical week. Future measurements of neuropsychological outcomes are planned at age 6 years and asthma and overweight at age 7 years.

Info: [www.birthcohorts.net/Cohort.Show.asp?cohortid=41](http://www.birthcohorts.net/Cohort.Show.asp?cohortid=41)

**A longitudinal study of migrant farmworker children in California: the CHAMACOS Study (PP)**

Presenter: Kim Harley (University of California, Berkeley, USA)

Email: kharley@berkeley.edu

**ABSTRACT**

**Background:** The CHAMACOS Study (short for the Center for the Health Assessment of Mothers and Children of Salinas) is a longitudinal birth cohort study investigating in utero and postnatal environmental exposures and their effects on neurodevelopment, growth, and respiratory disease in children residing the Salinas Valley, a largely agricultural region of California. The majority of children participating in CHAMACOS, which means “kids” in Spanish, are from Mexican-immigrant, farmworker families.

**Methods:** All women attending first prenatal care visits between October 1999 and 2000 at either of two community clinics serving primarily low-income families were screened for eligibility. Of 601 women who enrolled in the CHAMACOS study during pregnancy, 531 were followed through the delivery of a live infant. Women were interviewed twice during pregnancy, after delivery, and when the child was 6 months, 1, 2, 3½, and 5 years old. Neurodevelopmental assessments of the children were conducted at delivery and at 6 months, 1, 2, 3½, and 5 years of age and focused on behaviors likely to be affected by pesticide exposure. Urine and blood samples were gathered from mothers during pregnancy and from children postnatally and analyzed for pesticide levels.

**Results:** In utero pesticide exposure was found to be associated with abnormal reflexes in the neonatal period and poorer mental development at age 2 years in this population.

**Conclusion:** The challenges of collecting longitudinal data in minority, impoverished, rural communities are considerable. However, these studies are vital since these children may be at greatest risk for exposure to environmental hazards.

# Oral presentations

## Wednesday 13 September

**(OP = oral presentation)**

This booklet lists presenters only. Please note that many of the papers have multiple authors.

**Analysis of sample attrition over the past 15 years in the Birth to Twenty Cohort, Johannesburg, South Africa (OP)**

Presenter: Shane Norris (MRC Mineral Metabolism Research Unit, University of the Witwatersrand, South Africa)

Email: san@global.co.za

**ABSTRACT**

Tracking cohorts are costly and difficult, requiring careful attention to cohort maintenance and attrition. Birth to Twenty (BT20) is the largest and longest running longitudinal birth cohort study of child health and development in Africa. The children, whose life spans the transition to South Africa's democracy, turned 15 years old in 2005. The cohort has been tracked regularly since before the children's birth in 1990 within the Johannesburg-Soweto metropolitan area. This paper examines attrition within BT20 from contact information collected over 12 data collection waves.

On average in a data collection wave, 64% of the cohort was contactable (i.e. address information was available and accurate). Slightly less than this number (57%) was seen and interviewed. Nearly a quarter of the cohort (22.6%) was not contacted for a variety of reasons, including inadequate resources, and 11.4% of the cohort was lost to follow-up during a data collection wave. After the last data collection wave (2004-2005), 72% of the cohort was contactable, of which 89% was seen and interviewed, and 28% was lost to follow-up mainly due to urban-circular migration. However, there are no significant demographic differences between the in-contact group of children/caregivers and those lost to follow-up.

After 15 years, with intensive tracking initiatives and a well defined cohort management strategy, BT20 is still in-contact with a significant proportion of the cohort and has one of the lowest reported annual attrition rates (1.9%) from a developing country despite limited study funding and resources.

## **An overview of the National Longitudinal Survey of Children and Youth: objectives, design and operational challenges (OP)**

Presenter: Stephanie Lalonde (Statistics Canada)

Email: [stephanie.lalonde@statcan.ca](mailto:stephanie.lalonde@statcan.ca)

### **ABSTRACT**

The National Longitudinal Survey of Children and Youth (NLSCY) began in 1994 with a sample of 0-11 year-old children, to be followed until age 25. The survey was designed to identify factors influencing the development of Canadians from birth to adulthood. Data are collected every two years about the factors influencing a child's cognitive, emotional and physical development. The survey collects data from parents and youth directly, and in some cycles data have been collected from teachers and school principals. In 2006, the NLSCY will begin collecting its seventh cycle of data from the original cohort of children, who will be aged 12 to 23 years old, as well as from a cohort of children aged 0 to 9 years in order to collect information on early childhood development. This paper will focus, in particular, on the objectives, design and content of the NLSCY, as well as operational challenges and changes that have been made to the survey over time as the cohort ages and the requirements of the survey sponsor have evolved.

## **Treating non-response in the National Longitudinal Survey of Children and Youth (NLSCY) (OP)**

Presenter: Marcelle Tremblay (Statistics Canada)

Email: marcelle.tremblay@statcan.ca

### **ABSTRACT**

The National Longitudinal Survey of Children and Youth (NLSCY) began in 1994 with a sample of 0-11 year-old children. At every two-year cycle, a new cohort of 0-1 year-olds is selected for the purpose of investigating Early Childhood Development. In 2005 the NLSCY completed a 10-year review of the survey. Some of the recommendations of the 10-year review include: improving the nonresponse model for unit nonresponse; imputing item nonresponse for key variables and creating a custom-weighting program for all other variables; developing a comprehensive set of quality indicators for the data and all steps of the survey to evaluate sampling, collection, editing, etc.; investigating alternative sample designs; carrying forward on the microfile at each cycle more historical data; providing more information to analysts in order to facilitate analysis, by improving the website and creating a users' group. This paper will present what Statistics Canada has learned over the years: what works well and what needs to be changed, focussing in particular on the survey's methodology. A second paper will focus specifically on the redesign of the nonresponse model.



**A 10-year review of the methodology of the National Longitudinal Survey of Children and Youth (NLSCY) (OP)**

Presenter: Sarah Franklin (Statistics Canada)

Email: sarah.franklin@statcan.ca

**ABSTRACT**

The National Longitudinal Survey of Children and Youth (NLSCY) began in 1994 with a sample of 0-11 year-old children. At every two-year cycle, a new cohort of 0-1 year-olds is selected for the purpose of investigating Early Childhood Development. In 2005 the NLSCY completed a 10-year review of the survey. Some of the recommendations of the 10-year review include: improving the nonresponse model for unit nonresponse; imputing item nonresponse for key variables and creating a custom-weighting program for all other variables; developing a comprehensive set of quality indicators for the data and all steps of the survey to evaluate sampling, collection, editing, etc.; investigating alternative sample designs; carrying forward on the microfile at each cycle more historical data; providing more information to analysts in order to facilitate analysis, by improving the website and creating a users' group. This paper will present what Statistics Canada has learned over the years: what works well and what needs to be changed, focussing in particular on the survey's methodology. A second paper will focus specifically on the redesign of the nonresponse model.

**Attention behaviour and hyperactivity at age 4 and duration of breastfeeding (OP)**

Presenter: Jordi Julvez Calvo (Institut Municipal d'Investigació Mèdica, Spain)

Email: [jjulvez@imim.es](mailto:jjulvez@imim.es)

**ABSTRACT**

**Objective:** Long-term breastfeeding is known to be beneficial for cognitive development; however its potential impact on behaviour is unknown. We assess which behavioural areas (executive function, social competence, attention behaviour and hyperactivity) are related to long-term breastfeeding in young children.

**Methods:** Two prospective population-based birth cohorts, one from the island of Menorca (n=421) and the second from Ribera d'Ebre county (n=79) in Spain were followed up at the age of 4 years during a two year period (2001-2003). Children were rated by three psychologists and their respective teachers for neuropsychological functions (McCarthy test), attention-hyperactivity behaviours (attention-deficit hyperactivity disorder criteria of dsm-iv) and social behaviour (California Preschool Social Competence Scale).

**Results:** Long-term breastfeeding was associated with executive function scores (an increase of 4.9 points after breastfeeding >20 weeks), and the improvement of social competence scores (relative risk=0.57; 0.52-0.66, after >12 weeks) and attention-deficit hyperactivity symptom scores (relative risk=0.56; 0.37-0.85, after >12 weeks). These outcomes remained significant after mutual adjustment.

**Conclusions:** Long-term breastfeeding was found to be beneficial to attention and hyperactivity symptoms and the concomitant behavioural areas (neuropsychological and socio-behavioural outcomes).

**Funding:** "Instituto de Salud Carlos III" INMA Project (g03/176).

**The pathways through which neighbourhood factors influence developmental outcomes among Canadian school children (OP)**

Presenter: Susan Dahinten (University of British Columbia, Canada)

Email: dahinten@nursing.ubc.ca

**ABSTRACT**

Based on social disorganization theory and the developmental-ecological perspective of Bronfenbrenner, this study tested a theoretical model of pathways that might account for relationships between neighbourhood (NH) and family socioeconomic conditions and school-aged children's competencies using prospective longitudinal data drawn from the Canadian National Longitudinal Survey of Children and Youth (NLSCY). The sample included 4,120 children who participated in the first three cycles of the NLSCY (1994-95, 1996-97, and 1998-99) and were 6 to 11 years of age in 1998-99.

The results of structural equation modelling analyses showed no direct effects for NH disadvantage on school-aged children's outcomes after accounting for family disadvantage. However, NH disadvantage did have small indirect effects on children's behaviour problems. NH disadvantage was associated with lower levels of NH cohesion and social order. Lower levels of NH cohesion and social order at Time 1 were directly associated with lower family psychosocial resources at Time 2 and indirectly associated with higher levels of hostile parenting at Time 2. Thus, higher levels of NH cohesion and social order (influenced by NH disadvantage) were indirectly associated with children's behavioural outcomes through their effects on family and parenting behaviours.

The findings suggest that neighbourhood characteristics have direct and indirect effects on maternal mental health, family functioning, and parenting behaviours which, in turn, influence children's behavioural competencies.

**Health and development in infants conceived following infertility treatment compared with those conceived spontaneously (OP)**

Presenter: Maria Quigley (National Perinatal Epidemiology Unit, Oxford University, UK)

Email: maria.quigley@npeu.ox.ac.uk

**ABSTRACT**

**Background:** Despite the growing number of babies conceived through infertility treatment, data on the consequences of such treatment on the child are relatively scarce.

**Objective:** To measure the effect of infertility treatment on infant health and development at age 9-10 months.

**Methods:** Singleton infants drawn from MCS sweep 1 were classified according to whether they were conceived spontaneously or following ovulation induction, surgery or assisted reproductive technologies (ART). Infant health was assessed using parental report of any hospital admissions and other health problems requiring medical help. Parental response to statements about key developmental milestones (taken from Denver Developmental Screening Test) was used to define gross or fine motor delay. Adjusted odds ratios for the association between infertility treatment and these measures of health and development were estimated using logistic regression.

**Results:** 17,827 (98%) singleton infants were conceived spontaneously and 400 (2%) following infertility treatment. Of these 400, 48% were conceived following ovulation induction, 12% following surgery and 40% following ART. In infants conceived spontaneously, 14% had a hospital admission, 78% had other health problems requiring medical help, 10% had gross motor delay and 7% had fine motor delay. Some of these outcomes were more common in infants conceived following infertility treatment but the differences were not statistically significant, particularly after adjustment for confounders.

**Conclusions:** We observed no association between infertility treatment and parental report of infant health and development at age 9-10 months. Further research will explore the effect of infertility treatment on health and development at older ages.

**Breastfeeding and developmental delay (OP)**

Presenter: Amanda Sacker (University College London, UK)

Email: a.sacker@ucl.ac.uk

**ABSTRACT**

The benefits of breastfeeding for health and illness prevention are well known. We explore the role of breastfeeding in the prevention of developmental delay. The timing and attainment of developmental milestones are important markers of neurological integrity which may indicate a risk for later behavioural, cognitive or long-term disability problems. The sample includes all full-term singleton infants over 2500 grams at birth who have not been placed in a special care baby unit and whose mothers participated in the first survey of the Millennium Cohort Study (MCS). Missing data reduced the sample to 14732 (95%). Maternal reports of attainment of age-appropriate developmental milestones indicated that 9% of babies around the age of 9 months had delays in gross-motor coordination and 6% had fine motor coordination delays. Twenty-nine percent of MCS mothers did not breastfeed their baby at all. Almost half the mothers initiated exclusive breastfeeding, but only 60% of these babies were still being fed exclusively on breast milk after 3 months of age. A dose-response relationship between longer duration of exclusive or partial breastfeeding and less likelihood of gross motor delay remained unexplained by a full range of explanatory factors. Exclusive and partial breastfeeding was also associated with a reduced likelihood of fine motor delay, but this was fully accounted for by biological, socioeconomic and psychosocial factors. The positive effect of breastfeeding on gross motor but not fine motor development may be due to some component(s) of breast milk.

**Social inequalities, nutrition, and childhood obesity during the pre-school years: a longitudinal study from Quebec (Canada) (OP)**

Presenter: Lise Dubois (Department of Epidemiology and Community Medicine, University of Ottawa, Canada)

Email: lise.dubois@uottawa.ca

**ABSTRACT**

We report on our research on a large birth cohort for which yearly data on child health and development are being collected in the province of Quebec (Canada). The Quebec Longitudinal Study of Child Development (QLSCD) uses a representative sample ( $n=2,103$ ) of children born in Quebec in 1998. Funding for data collection is guaranteed until mid-adolescence. We are responsible for the diet and anthropometric measurements in this study. In relation to diet, data on breastfeeding and complementary feeding were collected in the first year of life. Data on the frequency of consumption of different types of food and of eating behaviours are collected every year as part of the regular data collection. Under our research supervision, a nutrition survey financed by the Quebec Ministry of Health and Social Services was done in 2004 with 4-year-old QLSCD children, the first Canadian nutrition survey ever done among a representative sample of preschoolers at the provincial or national level. This survey used 24-hour-recall methodology, repeated on 50% of the sample (to assess usual consumption). Data were collected at home and at daycare centres. The nutrition survey sample is still representative of the same-age children living in Quebec. Measured data on birth weight (from medical records) and weight and height (using a standardised protocol at 4 and 6 years) provide the basis for our analysis of the determinants of weight change and diet quality from birth to 6 years, which takes into consideration a broad range of social, familial, behavioural, and health factors.

**Socially patterned variation in birth weight in the Danish National Birth Cohort (OP)**

Presenter: Laust Mortensen (National Institute of Public Health, Denmark)

Email: lmo@niph.dk

**ABSTRACT**

Birth weight is a powerful predictor of survival in infancy and health in later life. Because of the link between birth weight and later health, examining the socially patterned variation in the causes of birth weight can potentially provide important insights into the causes of social health inequalities over the life course. Social gradients in birth weight are a common finding in many populations, but variations in the social gradient in birth weight between populations and over time may be due to population and period-specific associations between socio-economic circumstances and risk factors affecting to birth weight. The extent to which the social gradients in birth weight are mediated by maternal risk factors remains understudied. In a Danish context, poor socio-economic circumstances are associated with several risk factors, some of which, such as maternal smoking, decreases birth weight, while others, such as maternal BMI, increases birth weight. Our study utilize data from the National Danish Birth Cohort, which is an internationally unique cohort of approximately 100,000 pregnant women and their offspring, with baseline measures collected from 1996-2002, and several follow-ups during and after pregnancy. In this cohort, we examined the extent to which the socio-economic gradient in birth weight was mediated by maternal smoking, Body Mass Index, leisure time physical activity, alcohol use, preterm birth, and time of onset of maternal leave. The results will be presented and their implications discussed.

## **Preschool overweight/obesity in the Longitudinal Study of Australian Children: prevalence, sociodemographic correlates and future data possibilities (OP)**

Presenter: Melissa Wake (Murdoch Children's Research Institute, Australia)

Email: melissa.wake@rch.org.au

### **ABSTRACT**

Using data collected in 2004 from a nationally representative sample of 4-5 year old children, we studied relationships between children's weight status as an ordered outcome (normal, overweight, obese), using International Obesity Taskforce definitions, and sociodemographic circumstances. Participants comprised 4,983 children (2537 boys and 2,446 girls, mean age 56.9 months (SD 2.6)).

Results: 15.2% of Australian children were estimated to be overweight and 5.5% obese. Univariate analyses indicated that a higher odds of being in a heavier weight category was associated with: female sex ( $p=0.01$ ); language other than English (LOTE) ( $p=0.006$ ); indigenous status ( $p=0.03$ ); lower maternal education ( $p=0.05$ ), lower gross family income ( $p=0.007$ ), greater disadvantage ( $p<0.001$ ); and lower skilled occupation category ( $p<0.001$ ). In a multivariable regression model, indigenous status, disadvantage and LOTE (particularly for boys) were the clearest independent predictors of higher weight status. We confirm high rates of overweight in Australian preschoolers and the recent emergence of a strong socio-demographic gradient.

Future directions: Biennial waves of follow-up data should help develop a better understanding of longitudinal trajectories of childhood overweight, especially as it relates to social inequalities. Novel data sources potentially available to LSAC at the level of the individual child include:

1. Time-Use Diaries – children's activity patterns within their social and physical milieux.
2. The Australian universal Medicare and Pharmaceutical datasets – detailed health care and prescription medication use, and therefore health and economic consequences of heavier weight status.
3. Global Positioning System (GPS) readings – relationships between activity patterns and local greenery, urban density, parklands and other environmental features.



## **Comparison of bone mass accrual and stature between two urban children cohorts from the USA and South Africa (OP)**

Presenter: Shane Norris (MRC Mineral Metabolism Research Unit, University of the Witwatersrand, South Africa)

Email: [san@global.co.za](mailto:san@global.co.za)

### **ABSTRACT**

To understand geographical differences in growth and bone mass in children, we compared body size and whole body bone mineral content (WBBMC) in two cohorts of Black and White male and female children from Detroit in USA and Johannesburg in South Africa at age 9 and 10 years. We used existing data from Dual-energy X-ray Absorptiometry (DXA) studies obtained in two cohorts. Both DXA (Hologic, USA) instruments were cross-calibrated allowing for a more reliable comparison.

There were no significant differences in stature, weight, and WBBMC between White male and female American and South African children at age 9 and 10 years. Black male and female South African children were significantly shorter, 9.0cm (6%) and 10.2cm (7%) respectively, and lighter, 9.8Kg (25%) and 11.1Kg (27%) respectively, than their American peers ( $p < 0.001$ ). After controlling for body size differences Black male and female South African children had significantly lower WBBMC, 205.4g (18%) and 267.4g (23%) respectively, than their American peers at age 9 years ( $p < 0.001$ ). The WBBMC differences were accentuated one year later with Black male and female South African children accruing 60 % and 43% less bone mineral respectively ( $P < 0.0001$ ).

Later onset of puberty and poorer dietary intakes, and other factors such as physical activity patterns and general health affect skeletal health in Black South African children which warrant further investigation. The results of this study underscore the need to recognise socio-economic differences among geographically and culturally distinct populations when establishing age and gender based bone mass norms, especially in children.

**Fallacies of causation in interpreting longitudinal growth data (OP)**

Presenter: Charlotte M. Wright (Glasgow University, Scotland)

Email: cmw7a@clinmed.gla.ac.uk

**ABSTRACT**

Anthropometric characteristics vary with age and gender in a way that is fairly predictable across populations, while within individuals different measures have high degrees of covariance and track strongly over time. The strength of the classic cohort study is its ability to collect data objectively on risk factors prior to the outcome of interest occurring at a later date. This paper will argue that that growth data collected at different times cannot be treated as independent and the underlying process of growth confounds many apparent causal relationships in childhood longitudinal studies. It will draw on data from three cohort studies to illustrate the trajectory of growth over time, within individual covariance and how this can produce apparent but spurious causal relationships. It will discuss the use of growth reference standards to adjust growth data for age and gender as well as their limitations and the use of residuals to explore highly inter-correlated growth characteristics and adjust for regression to the mean.

**Approaches to maintaining response in child cohort studies (OP)**

Presenter: Carli Lessof (National Centre for Social Research, London, UK)

Email: c.lessof@natcen.ac.uk

**ABSTRACT**

This paper will review the level of non-response and attrition experienced by a range of child cohort studies in the UK and internationally. It will summarise measures taken to reduce attrition, including a comparison of panel maintenance strategies, incentive strategies, and approaches to reissues and refusal conversion. It will examine the different strategies used to locate movers and the extent to which administrative data sources are used for this purpose. It will also explore the extent to which administrative or observational data is used to model attrition, or to assist with data imputations. However the paper will not be technical or primarily statistical.

We anticipate that the initial focus will be on five studies though the exact composition of the comparison will be reviewed. They are (1) the Millennium Cohort Study, (2) the Early Childhood Longitudinal Study (ECLS-B and ECLS-K), (3) Growing up in Australia, (4) Growing up in Scotland and (5) the Avon Longitudinal Study of Parents and Children (ALSPAC). The paper will present evidence gathered from a review of relevant documents and statistics from each study and where required will draw on a short survey of those responsible for each of the studies. The paper will also refer to relevant literature.

**Enhancing longitudinal studies by linkage to national databases:  
“Growing Up in Australia”, the longitudinal study of Australian  
children (OP)**

Presenter: Carol Soloff (Australian Institute of Family Studies)

Email: [carol.soloff@aifs.gov.au](mailto:carol.soloff@aifs.gov.au)

**ABSTRACT**

Growing Up in Australia is a national longitudinal study of the development and wellbeing of 10,000 Australian children. An overview of the study is given in a poster. The study has been committed since inception to supporting data linkage to existing national datasets.

In the first wave of the study, over 90 per cent of parents gave consent to access the study child's government health datasets (Medicare, immunisations and Pharmaceutical Benefits Scheme) which provide detailed, prospective health care utilization and prescription medication data at the level of the individual. These data will support, for example, questions about relationships between conditions (such as asthma, obesity, parent mental health and substance use, and social disadvantage) and their associated past and future child health care utilization and economic costs. An example of analysis using these data sources will be given.

Data on the quality of the study child's child care was obtained from the National Childcare Accreditation Council (NCAC), to complement data obtained directly from parents and care providers. NCAC data were obtained for a large proportion of children who attended centre-based child care or home-based Family Day Care. An example of analysis using these data sources will be given.

Finally, Growing Up in Australia is very lucky to have an associated qualitative study – 10 infants and their families are having their lives tracked in a documentary being produced for national television. It is hoped that the first program in the series will be shown at the conference.

**Cerebral lateralization as the key determinant of verbal and non-verbal ability and psychopathology (OP)**

Presenter: Tim Crow (SANE POWIC, University of Oxford, UK)

Email: tim.crow@psych.ox.ac.uk

**ABSTRACT**

A critical variable – skill in the use of the right and left hands – in the 1958 cohort has clarified the role of cerebral lateralisation in the acquisition of words.

At age 11 those close to the point of “hemispheric indecision” have deficits in verbal, non-verbal, mathematical and reading ability (Crow et al, 1998). For reading an interaction between sex and degree of lateralisation illustrates the trajectory of development in the 2 sexes. In 3-dimensional space (left vs right vs ability) the deficits close to the point of hemispheric indecision are independent of absolute level of ability, and therefore cannot be attributed to specific impairments, e.g. birth or other cerebral trauma (Leask and Crow, 2001).

We find also (Crow et al, 1996) that children who as adults develop psychosis are more likely to be rated ambidextrous at age 7 and are less strongly lateralised at age 11. Such children have fewer words for a given level of lateralisation (Leask and Crow, 2005) than controls.

We conclude there is a strong (mandatory) case for inclusion of a measure of hand skill (at age 11) in all later cohorts.

**References**

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**Socioeconomic risk, parenting during school years and child health age 6 years (OP)**

Presenter: Sarah Stewart-Brown (Warwick Medical School, University of Warwick, UK)

Email: sarah.stewart-brown@warwick.ac.uk

**ABSTRACT**

**Background:** Low family socioeconomic status (SES) is predictive of poor health in childhood. Unsupportive parenting in early life is predictive of disordered socio-emotional and cognitive development and is also associated with low socio-economic status. This study tests the hypothesis that some of the effect of socioeconomic risk on health in mid childhood is transmitted via early parenting processes.

**Methods:** Prospective cohort study in ten USA communities involving 1041 mother/child pairs, selected at birth at random with conditional sampling.

**Exposures:** Socio-demographic status (income, maternal education, lone parenthood) and multiple objective assessments of mother child interaction in the first 4 years of life.

**Outcomes:** mother's report of child's health in general at age 6.

**Modelling:** Multiple regression analyses with statistical testing of mediational processes.

**Results:** All three indicators of SES were correlated with all three measures of parenting, such that low SES was associated with poor parenting. Maternal education and maternal warmth were independently predictive of poor health. Parenting processes mediated the relationship between SES and health, reducing by 60% the extent of variance in health explained by SES.

**Interpretation:** Parenting processes mediate a substantial proportion of the detectable effects of socioeconomic risk on health in childhood. As parenting processes are amenable to intervention, they represent a remediable risk factor for inequalities in health.

**Early intervention and early school achievement: findings from the Infant Health and Development Program (OP)**

Presenter: Jeanne Brooks-Gunn (Teachers College, Columbia University, USA)

Email: pklebano@princeton.edu (Pamela Klebanov)

**ABSTRACT**

Data come from a longitudinal sample of 985 low birth weight (LBW; < 2500 grams), premature infants who participated in the Infant Health and Development Program (IHDP), a randomized clinical trial of early intervention services based in the US. Infants with birth weights of 2500 grams or less who would reach 40 weeks post-conceptual age between January and October 1985 were selected. One third of the infants were assigned to the intervention group and two-thirds to the follow-up group. Upon discharge from the neonatal nursery, both groups received paediatric visits throughout the first three years. However, the intervention group received home visits and center-based childcare. Over the first eight years of life children were assessed ten times: at 40 weeks, 4 months, 8 months, 1, 2, 3, 4, 5, 6 1/2 and 8 years. There was a 93% retention rate at ages 3 and 4, 82% at age 5, and 89% at age 8.

This paper examines whether the intervention improved the school achievement outcomes of 6 ½ and 8 year old children. Analyses are conducted for the overall sample as well as for lighter and heavier LBW infants separately. Teacher reports of grade repetition, classification in special education, student engagement in school, and math and reading grades are examined (N=672 and 698 at 6 ½ and 8 years, respectively). In addition, the moderating or mediating effect of the child's prior cognitive test scores (Stanford-Binet, Wechsler), behavior problems (Achenbach CBCL), sustained attention and home environment (HOME) are considered.

**Financing modes of deliveries in the 2004 Pelotas Birth Study (OP)**

Presenter: Aluísio Barros (Epidemiologic Research Centre, Federal University of Pelotas, Brazil)

Email: abarros@epidemio-ufpel.org.br

**ABSTRACT**

Despite the Brazilian public health system (SUS) being free and universal, health expenditure is high and frequently catastrophic. We explored expenditure related to 4231 deliveries occurring in the year of 2004 in Pelotas, South Brazil, in the context of the start of the third birth cohort to be followed-up in this city.

A third of the mothers were covered by a private health plan, the majority of them covering medical consultations and laboratory exams. Hospital treatment was not covered in 40% of the cases. Among those who weren't, 97% had their deliveries paid by the SUS and 2% paid private care. Half the deliveries of mothers covered by a health plan were paid by the SUS, 41% by the plan and 9% by direct payment. In total, 81% of the deliveries were financed by the SUS and 14% by private health plans. Virtually none of the mothers from the poorest 40% of the population reported any direct expenditure related to the delivery. In the highest wealth quintile, 17% of the mothers spent something. The mean value spent with the delivery was R\$1,908 (US\$795). In the three lowest wealth quintiles 98-90% of the mothers relied on the SUS. In the two highest quintiles, this proportion was 70 and 35%. Financing by a health plan went from 2% in the lowest quintile to 48% in the highest.

In conclusion, delivery is financed mostly by the public system in Brazil, sparing the poorer from any expenditure at the occasion of a delivery.



**CHAMACOS: A longitudinal cohort study of a Latino farmworking community in Salinas Valley, California (OP)**

Presenter: Kim Harley (University of California, Berkeley, USA)

Email: [kharley@berkeley.edu](mailto:kharley@berkeley.edu)

**ABSTRACT**

CHAMACOS is a longitudinal birth cohort study of children living in the agricultural community of the Salinas Valley, California. Participant children are primarily from low-income, Mexican-immigrant, farmworker families. The aims of CHAMACOS include assessing: 1) exposure to pesticides and agricultural agents in pregnant women and young children; and 2) the potential health effects of pesticides on childhood growth, neurodevelopment and respiratory disease. Participant children were enrolled before birth: we enrolled 601 pregnant women in 1999-2000 and followed them through the birth of 543 babies. We interviewed the mothers (during pregnancy, at delivery and when her child was 6, 12, 24, 42 and 60 months of age), conducted neurodevelopmental assessments of the child (at each post-natal visit), conducted housing inspections (during pregnancy and at each post-natal visit), and collected numerous biologic and environmental samples. Challenges in this research include retention of participants in a mobile, migrant farmworker population; designing culturally and linguistically-appropriate assessment tools; and maintaining confidentiality and trust in a largely illegal immigrant population. We have found that pregnant women in the CHAMACOS cohort had higher levels of exposure to organophosphate (OP) and some organochlorine (OC) pesticides than in the general US population. We have reported an association of in utero OP pesticide exposure with shorter gestational duration and with abnormal reflexes in the neonate. We will present additional findings of the relationship of pesticide exposure and other health outcomes in these children.



# Poster session

## Wednesday 13 September

**(PP = poster presentation)**

This booklet lists presenters only. Please note that many of the papers have multiple authors.

## **Use of the ONS Longitudinal Study to research the cohort born around 2000 in England and Wales (PP)**

Presenters: Louisa Blackwell and Bola Akinwale (Office for National Statistics, UK)

Email: [louisa.blackwell@ons.gov.uk](mailto:louisa.blackwell@ons.gov.uk) / [bola.akinwale@ons.gov.uk](mailto:bola.akinwale@ons.gov.uk)

### **ABSTRACT**

This paper describes how the ONS Longitudinal Study (LS) can provide census and life event information collected prospectively for children born in the decades around the year 2000. The LS is a 1 per cent representative sample of the population of England and Wales, comprising linked Census and life event information, including registrations of births and deaths, cancer and migration. Information on other household members is collected at each census, but not linked through time.

The thirty year span of the LS permits cohort comparisons. For example, LS members born in the ten years before the 2001 Census can be compared with cohorts born in the decades before the 1991 and 1981 Censuses. Comparison between the information provided at birth registration and at Census can inform studies of, for example, social and geographic mobility and changes in household structure at ages up to ten years. Linkage of data on the characteristics of neighbourhoods into which the children were born provides further information on trajectories in the first decade of life and the family and household characteristics associated with differential life chances.

Intergenerational trends can be analysed through an alternative methodological approach. The characteristics of children born to LS members in the decade up to the 2001 Census can be compared with those of their mothers when they were children. This will be illustrated with an example showing the intergenerational transmission of advantage and disadvantage among young mothers (under 23 years) who gave birth in the 1990s.

**Modelling human growth using cohort data (PP)**

Presenter: Noël Cameron (Centre for Human Development and Ageing,  
Loughborough University, UK)

Email: n.cameron@lboro.ac.uk

**ABSTRACT**

Variables reflecting the pattern of human growth and development are amongst the most important outcome variables from child cohort studies. Accurate estimates of this pattern are affected by (a) the mixed-longitudinal nature of cohort studies in which not all children are present on all occasions, (b) attrition, (c) variation in the age at assessment within target intervals, (d) sexual dimorphism in growth patterns, and (e) variability between individuals.

In order to maximize such mixed-longitudinal data it is necessary to model the pattern of growth using appropriate non-linear functions. However, the complex nature of the growth curve has resulted in either relatively simple single functions (e.g. Count, Jenss-Bayley, Berkey-Reed, Gompertz) for specific parts of the growth process such as infancy, childhood, or adolescence, or more complex multiple functions (e.g. Preece-Baines, Bock, Karlberg) that describe growth from birth to adulthood.

Using data from the Birth to Twenty birth cohort study (funded by the Wellcome Trust) set in Johannesburg-Soweto, this paper explores factors determining the choice of function, the resulting pattern of growth, and consequent variability in the outcome variables in pre-pubertal children.

## **Dietary assessment in longitudinal studies – the case for diet diaries (PP)**

Presenter: Alison Stephen (MRC Human Nutrition Research, Cambridge, UK)

Email: [alison.stephen@mrc-hnr.cam.ac.uk](mailto:alison.stephen@mrc-hnr.cam.ac.uk)

### **ABSTRACT**

Dietary factors are known to be involved in the aetiology of major chronic diseases and are emerging in importance in relation to development, behaviour and performance. Diet is often assessed in longitudinal studies, but methods vary depending on study priorities, time availability and perceived respondent burden. The MRC National Survey of Health and Development (NSHD)(1946 birth cohort) has used a diet diary approach, providing detailed information about all food consumed over a number of days, while the 1958 and 1970 cohorts have used food frequency questionnaires (FFQ). In the most recent phase of the Millennium cohort, questions about diet have been included for the first time. Both ALSPAC and EPIC UK studies use diet diaries, and in EPIC, comparisons with FFQ and 24 h recall have demonstrated the value of detailed diary information for relationships with health outcomes and social factors. Dietary patterns, eating frequency and times of eating can also more easily be studied using diaries, as can social interactions at meals and location where each meal was consumed. These are difficult to capture through questionnaires. Response rates indicate considerable willingness by respondents to complete diaries. Diaries for children are under improvement and can provide invaluable information in longitudinal studies; there is no need for method changes for subsequent assessment periods, a requirement of FFQs as food preferences change with time and new foods appear in the market. While questionnaires provide some useful information, further consideration should be given to the use of diaries in future birth cohorts.

**ELVS: A prospective, longitudinal study of emerging communication skills (PP)**

Presenter: Melissa Wake (Murdoch Childrens Research Institute, Australia)

Email: melissa.wake@rch.org.au

**ABSTRACT**

The Early Language in Victoria Study (ELVS) is a prospective population-based study aiming to investigate if risk factors for language delay at four years can be reliably identified at 8, 12, 24 and/or 36 months. The sample comprises 1911 infants (966 boys, 945 girls). Commencing in 2003, the 24 month data collection is complete (92% retention). Parents will complete a further questionnaire at age 3 years, followed by a face-to-face standardised assessment of language development at age 4 years. Nested within ELVS is a prospective study of the risk factors, natural history and outcomes of early stuttering. A follow-up study focusing on literacy is planned.

Growth in communication skills between 8 and 12 months was measured using the Communicative and Symbolic Behavioral Scales Infant-Toddler Checklist (CSBS). At 8 months of age, almost all infants effectively used a range of social communication strategies (eg emotional indicators and eye-gaze), while gestures were emerging for a smaller proportion of the cohort (4.9%-45.1% across 5 indicators). By 12 months, there had been an explosive development in gestures.

In multivariable regression models, predictors of 8 and 12 month CSBS scores included female sex, singleton status, maternal education and social disadvantage, but together these contributed <5% of the total variance. The strongest predictor of 12 month score was 8 month score (37% of variance). Maternal mental health and vocabulary scores did not contribute significantly.

Data from future waves may assist in earlier identification of language disorder and facilitate development of prevention and intervention programs.

## **The Isle of Wight 1989 birth cohort study – chances, advantages, and hurdles (PP)**

Presenter: Wilfried Karmaus (University of South Carolina, USA)

Email: [karmaus@sc.edu](mailto:karmaus@sc.edu)

### **ABSTRACT**

The study was initiated by Drs. David Hide and Hasan Arshad to determine the natural history of allergic disorders. Children were recruited at birth, from January 1989 – February 1990. Of 1536 deliveries, 1456 offspring participated. This sample was invited to participate in follow-ups at 1 year (80.2%), 2 (80.6%), 4 (83.7%), and 10 years (94.3%). Questionnaire assessments were done at all ages, skin prick test at 4 years and 10-years. The 10 year follow-up also included a blood draw, skin prick tests, and lung function.

The sample size is sufficiently large to test a number of hypotheses, and small enough to conduct clinical investigations. The repeated measurements gathered from this cohort shed light on trajectories and risk factors of allergic disorders in childhood. The inclusion of pregnancy characteristics facilitated testing of the prenatal priming hypothesis. The challenge of birth cohorts is to maintain funding, in particular to accomplish costly state-of-the-art procedures. The David Hide Asthma and Allergy Research Centre provided the backbone. Since then, several funding agencies supported the study (NHS, Asthma UK, National Institute of Health, USA). To support scientifically essential cohort studies there is a need for larger national and international funding sources.

Another important task is to keep the interest alive, both in participants and in researchers. The isle-setting, enthusiastic staff and the support of the research centre ensured the interest of participants. The openness of local investigators for collaborations fueled the scientific interest. This opened the window to integrate genetic and gene×environment investigations into this cohort.



**Gateshead Millennium Study: a prospective study of feeding and growth (PP)**

Presenter: Kathryn Parkinson (Newcastle University, UK)

Email: [kathryn.parkinson@ncl.ac.uk](mailto:kathryn.parkinson@ncl.ac.uk)

**ABSTRACT**

This was a population-based prospective cohort study of feeding and growth. All infants born to mothers resident in the Gateshead, UK, in pre-specified recruiting weeks in 1999-2000 were eligible and a total of 1029 (83%) infants of 1011 mothers were recruited shortly after birth, mostly in local maternity hospitals, in a face-to-face interview.

Parents completed a questionnaire at recruitment and subsequent postal questionnaires at 6 weeks, 4, 8 and 12 months, with response rates varying from 81% at 6 weeks to 63% at 12 months. Families also received a modified version of the parent-held child record (PCHR) routinely given to parents, incorporating additional self-carbonated pages to collect a range of data from parents, midwives and health visitors. For example a form completed by health visitors meant that routinely collected Edinburgh post-natal depression scores could be obtained for 72% subjects. Parents transcribed routine baby clinic weights recorded in their PCHR onto each questionnaire, yielding a mean (SD) of 13 (6) weights per child. At 13 months, 84% of participants were weighed and measured by research nurses.

Various additional strategies were used to ensure the study's success: media involvement; support from local health professionals; telephone reminders for questionnaire completion; newsletters and birthday cards. A particular strength was that data collected from health professionals at times when they had routine clinical contacts, with forms readily available as a prompt in the PCHR. The result was a rich data set to form the basis of a long term study that is still ongoing.

## **Attrition in the Quebec Longitudinal Study of Child Development (QLSCD): success, problems, and solutions (PP)**

Presenter: Bertrand Perron (Institut de la statistique du Québec, Canada)

Email: [bertrand.perron@stat.gouv.qc.ca](mailto:bertrand.perron@stat.gouv.qc.ca)

### **ABSTRACT**

#### **Methodological issue**

Low sample attrition and non-participation rates are key factors of success in longitudinal studies.

In this article, we will try to explain variations in study participation rates, notably, by critically analyzing sample retention strategies and data collection procedures adopted over the nine consecutive years of data collection in the QLSCD. Contextual events and field statistics will also be taken into account.

#### **Key explanations discussed**

Stability characterises Phase 1 of QLSCD (1998-2002) and contributed to low attrition between T1 and T5 (N = 2120 to N = 1944). Families, who participated in T1, gave a 5-year moral commitment by agreeing to be solicited each year. Sample retention strategies consisted of a small monetary incentive and stable communication plan. Another contributing factor was the low turnover of interviewers, creating close-knit ties with respondents during the home visit.

Attrition problems encountered at the beginning of Phase 2 (2003-2010) could be explained by uncertainty surrounding the study's funding. This resulted in ambiguous communication to respondents with a greater burden being placed on them, notably their children now being interviewed in kindergarten or school. Sample size diminished to 1492 at T7.

New sample retention strategies were launched, including an image change for the study, a multiple-choice consent form, and a "normal respondent burden." These strategies seemed positive, closing the T8 field with 1528 respondents. But the situation remains fragile since only 1490 respondents participated in T9. Sample monitoring and data imputation will help maintain data quality by correcting for attrition.

## **Understanding dimensions of community socio-economic status in urban Johannesburg and Soweto: what can community members tell us? (PP)**

Presenter: Zoë A. Sheppard (Centre for Human Development and Ageing, Loughborough University, UK)

Email: [z.a.sheppard@lboro.ac.uk](mailto:z.a.sheppard@lboro.ac.uk)

### **ABSTRACT**

In order to identify those at greatest risk of ill-health and target resources accordingly, it is important to understand the role of contextual (e.g. community of residence) versus compositional (e.g. household characteristics) effects. Because of the magnitude of income inequalities, South Africa is an ideal setting for such a study of health inequalities.

This paper uses participants from the Birth to Twenty birth cohort study (Bt20) born in Johannesburg and Soweto in 1990. Bt20 is the largest and longest running cohort study of child health in Africa and its longitudinal design brings an opportunity to analyze the changing role of SES on health.

As a result of the lack of community SES data within Bt20, this paper will outline the methodology and findings of an MRC funded qualitative add-on to this child cohort study to further contextualize household SES within the dynamic urban environment of Johannesburg-Soweto. The study uses 12 focus groups with adolescents aged 15 years and their caregivers from 40 African Black families and 20 African White families, and in-depth interviews with 18 key informants. The objective of the research is to establish lay knowledge and perceptions of the importance of community/school SES for health. This enables community members to contribute to developing an understanding of the local SES environment. The findings will be used to develop questionnaires for collecting quantitative community/school SES data during later phases of cohort data collection.

**Sample recruitment and maintenance for “Growing Up in Australia”, the longitudinal study of Australian children (PP)**

Presenter: Carol Soloff (Australian Institute of Family Studies)

Email: carol.soloff@aifs.gov.au

**ABSTRACT**

Growing Up in Australia is a national longitudinal study of children's development and wellbeing. An overview of the study is given in a poster.

The sample of approx. 5,000 infants and 5,000 children aged 4-5 years was recruited from the national health service (Medicare) data base. The first main wave of data collection was completed in 2004, with the second wave being conducted throughout 2006. Between waves, a mail-out questionnaire was sent, partially to help maintain contact between the critical first 2 waves.

Due to concerns about privacy, the recruitment process was rather complex and the initial recruitment rate was lower than initially expected. The resulting sample has a slight bias to families with higher socio-economic status. This paper will outline the recruitment process, differences between the sample and the target population and how this has been dealt with.

A private data collection agency conducted the first wave of the study whereas the Australian Bureau of Statistics is collecting the second wave of data. This paper will discuss the challenges of sample maintenance in a large country with relatively high mobility, and with a change in data collection agency. The various strategies that have been employed to retain the sample, especially those with a lower socio-economic status, will also be outlined.

**Association between infant feeding practices and first meaningful words at first year of life: the Prospective Cohort Study of Thai Children (PP)**

Presenter: Bhunyabhadh Chaimay (Department of Biostatistics and Demography, Khon Kaen University, Thailand)

Email: pchaimay@hotmail.com / pchaimay@yahoo.com

**ABSTRACT**

**Background:** Feeding practices showed many benefits for child survival, growth and development, including its association with reduced incidences of infectious disease and infant mortality. In addition, it was thought to have benefits for neurodevelopmental outcomes. Several studies showed the association between breastfeeding and cognitive development related language skills, there was, however, no evidence-based to confirm the association of infant feeding practices and first meaningful words.

**Objective:** We investigated the association between infant feeding practices and first meaningful words of Thai children.

**Methodology:** We followed 4,245 children born to mothers participated in ongoing longitudinal study (PCTC) in four rural areas and an urban area of Thailand, between July 2000 and June 2002. Totally, 4,885 pregnant women from 28th to 38th week of gestational age included. Finally, the 4,215 remaining pregnant women included into the study. The primary outcome was the time from birth to express first meaningful words during first year of life. Outcomes were defined as expressing whether the papa/mama or caregiver's name and two to three meaningful words not including papa/mama or caregiver's name. Information regarding feeding practices was used as interested independent variables to quantify their effects on such outcome. Outcome and feeding information gathered using diary developmental record by well-trained parents and caregivers.

**Result:** The result is in analyzing process.

**Conclusion:** The conclusion will be discussed.

**Children with a difficult life. Description of a polarization of seven years old children (PP)**

Presenter: Else Christensen (The Danish National Institute of Social Research)

Email: ec@sfi.dk

**ABSTRACT**

A number of 80% seven years old children have parents with good financial (not rich but they have jobs) and human resources, 13% have parents with less financial and human resources and 7% have parents with very few financial and human resources. Having problems during the first year in school follows this classification and the same is found for the score on The Strength and Difficulties Questionnaire. This means that a group of children very early will experience problems they cannot get help from the parents to solve. These results will be presented and discussed.

The study is a longitudinal study following 6000 Danish children born in 1995. The mothers were interviewed in 1996, 1999 and 2003. The fathers have filled out a written questionnaire in 1996 and 2003. Next contact will be in autumn 2006. The mothers will be interviewed, the fathers will fill out a questionnaire and the children will be interviewed themselves.

In 2003 a total of 83% of the families contacted in 1995 are still in the study

The population is representative for Danish children born in 1995. A total of 6000 newborns is about 10% of the children born in 1995.

**An analytic strategy for identifying interacting individual and contextual factors associated with developmental health outcomes (PP)**

Presenter: Susan Dahinten (University of British Columbia, Canada)

Email: dahinten@nursing.ubc.ca

**ABSTRACT**

Child development reflects an array of causal influences spanning biological, psychological, and social circumstances. There is considerable evidence that the individual characteristics prematurity, low birth weight and difficult temperament, and the contextual factors low family income, a lack of positive parenting, and little neighborhood social support contribute to poor outcomes. What is not well understood is how these risk factors might interact to increase the likelihood of a negative outcome for some children. A novel analytical strategy was used to model the relationship between these risk factors and verbal ability prior to school entry. The sample consisted of 1,825 children participating in the Canadian National Longitudinal Survey of Children and Youth (NLSCY) for whom valid predictor data was available in the first year of life (Cycle 1) and for whom outcome data was also available prior to school entry (Cycle 2). When accounting for all other factors in a person-centred model the characteristic of pre-term or low birth weight was modestly predictive of poor verbal ability (OR 1.50), as was the characteristic of little neighborhood social support (OR 1.58). However, children who were pre-term or low birth weight who lived in an unsupportive neighborhood in their first year were among those at greatest risk for poor verbal ability prior to starting school (OR 4.46). This is one of five significant interactions found in these data. The modelling approach demonstrated that, for the children involved, the chosen risk factors affected verbal ability differentially depending on the combinations of characteristics.

## **Weight gain and obesity at three years of age in the Millennium Cohort Study (PP)**

Presenter: Lucy Griffiths (Institute of Child Health, University College London, UK)

Email: l.griffiths@ich.ucl.ac.uk

### **ABSTRACT**

The increasing prevalence of childhood obesity is a major public health concern. This increase is occurring at younger ages and the onset has been identified during preschool years. Infant feeding practices have been implicated in this 'epidemic' of obesity. A recent meta-analysis suggests that a longer duration of breastfeeding is associated with reduced risk of being overweight in later childhood.<sup>1</sup> However, the authors were unable to adjust for known confounding factors, and did not examine the relation to weight gain.

We hypothesise that children breastfed for shorter periods, or not at all, and those introduced to solid foods at an earlier age, gain weight more rapidly, and are at increased risk of obesity by 3 years of age.

We will examine whether infant feeding is independently associated with weight gain from birth to 9 months and 3 years, and body mass index (BMI) at 3 years, in the UK wide Millennium Cohort Study.

Weight gain and obesity by 3 years of age will be examined among 18819 Cohort infants born between 2000 and 2002. Information available at 9 months of age includes birth weight, last recorded weight and infant feeding practices (duration / exclusivity of breastfeeding and weaning age). At 3 years of age measures of weight, height and hence BMI will be available, which will be used to define obesity using International Obesity Task Force cut-offs. Analyses will be conducted on release of data from the 2nd survey of MCS.

(1) Harder et al. Am J Epidemiol 2005; 162: 397



## **Ecological factors associated with the use of methylphenidate (Ritalin) (PP)**

Presenter: Dafna Kohen (Statistics Canada)

Email: dafna.kohen@statcan.ca

### **ABSTRACT**

Ritalin is widely used as part of the management of attention-deficit/hyperactivity disorder (ADHD) but there is much variability in its prescription and use. Specific factors associated with its prescription, particularly those in the child's broader ecological context, are poorly understood and have not been carefully examined. The purpose of the present study was to examine factors at the neighborhood, school, family and child levels associated with the use of methylphenidate (Ritalin). Prospective longitudinal data from a representative sample of Canadian children was used from the first two cycles (1994-5; 1996-7) of the National Longitudinal Survey of Children and Youth (NLSCY;  $n=8,483$ ). The sample consisted of children with an average age of 7.5 years ( $SD = 2.30$ ), 50% were girls, the average household income was \$47,910 ( $SD=\$31,736$ ), mothers had an average of 12 years of schooling ( $SD=2.10$ ) and 14.5% were single mothers.

Results of this study demonstrate that child and family level factors had the greatest impact on Ritalin use but neighbourhood and school level determinants had an impact over and above child and family level factors. Initial use of Ritalin was the best predictor of its continued use. Boys, school aged children, and children with parent and teacher ratings of hyperactivity-inattention were also more likely to use Ritalin. However, even when child factors were controlled, the school context, particularly lax discipline in the school and a high percentage of behavioral children in the classroom were also important predictors of Ritalin use.

**Parent-child interaction and maternal education as predictors of receptive language development: results from the ALSPAC birth cohort (PP)**

Presenters: James Boyle (University of Strathclyde, Glasgow, Scotland) and James Law (Queen Margaret University College, Edinburgh, Scotland)

Email: jlaw@qmuc.ac.uk

**ABSTRACT**

**Background:** Parent-child interaction is an important social determinant of progress in language development but it is unclear to what extent a measure of such interaction may be effectively subsumed under socio-economic status (SES) or whether it may have an independent role to play in predicting subsequent growth in language skills.

**Methods:** The Avon Longitudinal Study of Parents and Children (ALSPAC) in the Bristol area of the UK was used to identify 1077 children (a one in 10 sample of the full birth cohort). Gender, presence of older siblings, maternal education, maternal age and parent-child interaction as measured on the Thorpe Interactive Measure (TIM) at twelve months were included in a hierarchical regression model to predict verbal comprehension as assessed on the Reynell Developmental Language Scales at 25 and 61 months and verbal narrative on the Bus Story at 61 months.

**Results:** The TIM predicted performance on the measure of verbal comprehension at 25 months, and the sentence length scale but not the sentence information scale of the expressive language measure at 61 months. Hierarchical linear regression analysis indicated that parent-child interaction accounted for a statistically significant additional 4% of variance to the model at 25 months which included both maternal education and age, child's gender, and whether the child was first-born.

**Conclusions:** This large scale study provides strong evidence of the role played by parent-child interaction above and beyond maternal education in the development of receptive language in the early years.

**Follow-up of a regional very low birth weight cohort of Wisconsin births in 2003 (PP)**

Presenter: Mari Palta (Department of Population Health Sciences, University of Wisconsin, Madison, USA)

Email: mpalta@wisc.edu

**ABSTRACT**

All NICU admissions below 1501 grams (VLBW) in Wisconsin 2003 - 2004 were reported to the Newborn Lung Project Regional Follow-up Study. Comparison with birth certificates from 2003, indicates that this captures 96% of all VLBW births, with almost all those missed below 500g.

Nurses at 16 NICUs approached parents for informed consent to recontact when the child turns 2. Recontacting of NICU survivors (n=978) is ongoing, and will be completed by March 2007. A regional control group of normal birth weight children is also being assembled. A telephone interview is conducted with a parent, which includes the PEDSQL and the PEDI functional assessment. Mean (sd) PEDSQL for healthy children has been reported as 88(12). The PEDI is scored into self-care, mobility and social function, with standardized normative mean (sd) of 50(10).

Preliminary results, based on 76 interviews scored, indicate a mean (sd) on the PEDSQOL of 85(12). Scores were predicted by IVH during the NICU stay (9.4 lower,  $p=.015$ ) and by BPD (=moderate worse by new NIH criteria, 8.1 lower,  $p=0.08$ ).

Means (sd) for the PEDI were 45 (8.7), 42 (13) and 43 (15) for self-care, mobility and social function respectively. These are almost identical to those at age 5 in our previous cohort born 1988-1991. Self-care scores were lower with IVH (5.2 points,  $p=.04$ ), BPD (7.7 points,  $p=.01$ ) and male gender (3.8 points,  $p=.07$ ). No baseline factors as yet predicted mobility, while social function was again lower for males (11 points,  $p=.0028$ ) and with IVH (7.7 points,  $p=.07$ ).

**Factors affecting specific language impairment: effect on later language development (PP)**

Presenter: Benjamas Prathanee (Department of Otolaryngology, Khon Kaen University, Thailand)

Email: benjamas\_pra@yahoo.com / benjamas@kku.ac.th

**ABSTRACT**

**Background:** Recent studies have substantial literatures confirm that children with specific language impairment (SLI) are at considerable risk for social, emotional, and behavioral problems as well as literacy. Association between risk factors and later language development, incidences, stability of specific language impairment (SLI) and magnitude of effects should be explored for parental counseling, cost-effectively early intervention and special services for children with SLI who have tentative to be in stability of later SLI in appropriate time.

**Objective:** To explore the association between risk factors and combined language score at age 3 years (CLS3) in 4 areas in Thailand with different socio-economic/demographic characteristics. **Methodology:** All 3,384 children, who were born over 1-year period from 4 areas in Thailand were recruited in longitudinal study (The Prospective Cohort Study of Thai Children: PCTC), including the influencing factors in family, community and environment have also been recorded during pregnancy and period of study. Establishing Thai Speech and Language Test, 2 pre-tests, research assistant training, quality assurance, and online consultant, were conducted, respectively. Main outcomes of this study are CLS3, which is total of receptive and expressive language scores. Risk factors or dependent variables for quantifying association to later language scores (CLS3) including language scores at age 2 ½ years, biological, and environmental factors are included for investigation. Multiple linear regression analysis is explored and used to determine association between CLS3 and risk factors.

**Result and conclusion:** The results and conclusion have been conducting and will be discussed.

**The cohort study on the effects of perinatal exposure to heavy metals and environmentally persistent organic pollutants on neurobehavioral development in Japanese children: the association of neonatal neurobehavioral status with methylmercury exposure and maternal fish intake (PP)**

Presenter: Keita Suzuki (Environmental Health Sciences, Tohoku University, Japan)

Email: keita@mail.tains.tohoku.ac.jp

**ABSTRACT**

From several epidemiological studies, it has been reported that there are some associations between perinatal exposures to methylmercury (MeHg), polychlorinated biphenyls (PCBs) or dioxins and neurobehavioral defects such as postnatal growth delay and poorer cognitive functions. These chemicals accumulate in humans through the consumption of foods, especially fish and shellfish. From the nutritional perspective, fish is usually recommended for pregnant women because it is rich in some nutrients such as polyunsaturated fatty acids (PUFA) essential for the perinatal growth of the brain. Therefore, from the perspective of risk assessment, these health hazard issues are particularly of importance in fish-eating populations. We have been performing a prospective cohort study to examine the effects of perinatal exposures to MeHg, PCBs and dioxins on neurobehavioral development in Japanese children. We registered 599 mother-infant pairs from Jan. 2001 to Sep. 2003. For the assessment of neurobehavioral development, Brazelton neonatal behavioral assessment scale (NBAS) were performed when children were 3 days after birth, and other tests including Bayley scales of infant development and Kaufman assessment battery for children were done with growing of the children. In the present study, we examined the association of NBAS with maternal hair mercury concentration and maternal fish intakes during pregnancy. We found a negative association between hair mercury concentration and the motor cluster, and, several positive associations of the motor cluster with maternal fish intake. These results suggest the both potential risk and benefits of the fish intake.

**Determinants of cognitive ability in 7-year old children and children born small for gestational age (PP)**

Presenter: Reremoana Theodore (University of Auckland, New Zealand)

Email: m.theodore@auckland.ac.nz

**ABSTRACT**

**Introduction:** Few studies have examined the determinants of intelligence in children born small-for-gestational age (SGA) at term. The aim of this study was to identify the determinants of cognitive ability in 7-year old children, approximately half of whom were born SGA.

**Methods:** Demographic, obstetric and postnatal factors were recorded by maternal interview when children were born, at one year of age, 3 ½ years of age and 7 years of age. Cognitive ability at 7 years was measured using the Weschler Intelligence Scale for Children – Third Edition for 591 (SGA=240; appropriate-for-gestational age (AGA) =351) New Zealand European children. For the total sample, the analysis utilised weighting to allow for the disproportionate sampling of children born SGA.

**Results:** There was no significant difference in Full Scale IQ (FSIQ) scores between SGA (Mean = 109, SD = 12.9) and AGA (Mean = 111, SD = 13.6) children. In multiple regression analyses, higher school leaving ages of mothers ( $p=0.05$ ) and fathers ( $p<0.001$ ), and fathers with a university education ( $p=0.05$ ) predicted higher FSIQ scores for the total sample. Having older siblings was associated with lower IQ scores ( $p=0.005$ ). Higher IQ scores for SGA children were related to having a father who stayed at high school longer ( $p=0.006$ ).

**Conclusion:** Parental education and family factors were strongly associated with intelligence at 7 years of age for the total sample. Fathers' education was related to intelligence in SGA children. This study highlights the importance of examining paternal factors in relation to children's cognitive development.

## **Parent-child relationships and their impact on the health of the child (PP)**

Presenter: Sarah Stewart-Brown (Warwick Medical School, University of Warwick, UK)

Email: sarah.stewart-brown@warwick.ac.uk

### **ABSTRACT**

There is substantial evidence that parent-child relationships (indicated by parenting practices such as supervision and use of discipline) are associated with psychological health (emotional and behavioural disorders) in childhood. There is also emerging evidence of associations between parent-child relationships and physical health outcomes in childhood.

The current study explores links between early parenting practices (from pregnancy to seven years) and physical health outcomes at seven and eight years of age using prospective longitudinal data from the ALSPAC study. This is a birth cohort based in the south-west of England which collects data at least annually from parents and child. 14,541 pregnant mothers with an expected delivery date between April 1991 and December 1992 were recruited: 13,988 infants were in the study at 1 year of age.

Preliminary results suggest that both positive and negative aspects of parent-child relationships from four weeks of age onwards are correlated with poorer child health (assessed by maternal self-report and maternal assessment of the number of childhood illnesses). While responsive parenting (e.g. taking the child into bed at night if s/he won't settle) is significantly correlated with more positive health assessments and fewer reported illnesses, aspects of negative parent-child relations (e.g. being irritated by the child, increased smacking) are associated with poorer overall assessment and more reported illnesses.

A significant association exists between parenting practices (measured by a range of indicators) and child health. This suggests that interventions aimed at improving parent-child relationships could have a significant impact on health inequalities.

**Fetal growth and childhood behavioural problems: results from the ALSPAC cohort (PP)**

Presenter: Nicola Wiles (Academic Unit of Psychiatry, University of Bristol, UK)

Email: [nicola.wiles@bristol.ac.uk](mailto:nicola.wiles@bristol.ac.uk)

**ABSTRACT**

**Background:** Previous studies linking low birth weight and childhood behaviour have not distinguished between intrauterine growth restriction (IUGR) and pre-term delivery. There may be subtle changes in brain development amongst IUGR infants that influence later behaviour.

**Aim:** To investigate whether IUGR (indexed by birth weight and length) is associated with behavioural problems at age 7.

**Details of Cohort:** All women resident in Avon, UK with an expected delivery date between 1st April 1991 and 31st December 1992 were eligible to take part in the Avon Longitudinal Study of Parents and Children (ALSPAC) and were enrolled in pregnancy.

**Method:** Childhood behavioural problems were measured using the Strengths and Difficulties Questionnaire (parental completion) at 81 months for 4813 children in the ALSPAC cohort. The association between birth weight/length and behavioural problems was examined, adjusting for confounders.

**Results:** Amongst term singleton infants, a one-kilogram increase in birth weight was associated with a 20% reduction in the odds of behavioural problems at 81 months. After adjustment for confounders and birth length this association was no longer seen. A one-centimetre increase in birth length was associated with a 7% decrease in the odds of being in the top tertile of behavioural difficulties at 81 months (OR: 0.93 (95%CI: 0.88, 0.98)), independent of birth weight and other confounders.

**Conclusions:** IUGR, as indexed by birth length (rather than birth weight), was associated with childhood behavioural problems. Future work needs to focus on elucidating the biological mechanisms that lead to variations in birth length and underlie this association.



## **Is dietary omega-3 important in the psychiatric diagnosis of externalising behavior in children? (PP)**

Presenter: Muthanna Samara (Bristol University, UK)

Email: muthanna.samara@bris.ac.uk

### **ABSTRACT**

Intake of omega-3 fatty acids (FAs) has been associated with reduced levels of anti-social behavior although associations with attention-deficit hyperactive disorders (ADHD) are ambiguous. Aims of the current study were to determine whether intake of omega-3 FAs from seafood - by the pregnant mother and the child aged 3 - predicted psychiatric diagnosis of oppositional-conduct disorders or ADHD at eight years.

The current research was carried out using data from the ALSPAC study: a birth cohort based in the south-west of England which collects data at least annually from parents and child. 14,541 pregnant mothers with an expected delivery date between April 1991 and December 1992 were recruited: 13,988 infants were in the study at 1 year of age. The DAWBA was used to assess psychiatric disorders in 8242 children (59%) from the cohort. Omega-3 FA intake was measured by food-frequency questionnaire for mothers at 32 weeks gestation and for 3-year old children. Confounding factors included maternal age, education, tobacco use, social status and family adversity.

Formula- as opposed to breast-feeding predicted DSM-IV diagnosis of oppositional-conduct and comorbid disorders after adjusting for confounders whereas child intake of omega-3 was marginally significant after adjustment. There was no association between maternal or child intake and ADHD.

Formula feeding in infancy is associated with levels of oppositional-conduct behavior but not ADHD. There is a tentative association between child intake of omega-3 and oppositional conduct behaviour. Taken together, these results suggest important implications for nutritional advice given to mothers of infants and young children.

**ELSPAC study in Brno, Czech Republic and Bratislava, Slovakia (PP)**

Presenter: Lubomir Kukla (Masaryk University in Brno, Medical Faculty, Czech Republic)

Email: lubomir.kukla@tiscali.cz

**ABSTRACT**

European Longitudinal Study of Pregnancy and Childhood is a prospective study in which several European countries take part. In this study, selected study sets of children and their families are followed from pregnancy, delivery, childbed, infancy till at least 15 years of age of children. The study is initiated by WHO European office. The international coordinator is Professor Jean Golding from University of Bristol, UK. Participating in the project in Europe are Great Britain, the Isle of Man (independently), the Czech Republic, the Slovak Republic, Russia, Ukraine. Study sets in each country include all children born during the time-span of 1-1.5 years in one or more geographical areas. Altogether about 40,000 children are followed. In the Czech Republic the study set includes all children from Brno born from March 1st 1991 till June 30th 1992 (5,000 families) and children in the district of Znojmo born April 1st 1991 till June 30th 1992 (1500 families). In Slovakia children born September 1st 1993 till August 31st 1995 (1000 families) are included. The project primarily aims to find out which factors and how they are related to survival and health of fetus, infant and child and find out if the same factors have similar influence in all of participating countries. To-date data from 11 phases was collected. Scientific instruments include questionnaires and paediatric-anthropological examination. Total response rate after 11 phases is 52%. Future outlook includes examination and questionnaire investigation at the age of 15 years of children.

**Methodological challenges and experiences in the Norwegian Mother and Child Cohort Study (MoBa) (PP)**

Presenter: Wenche Nystad (Norwegian Institute of Public Health, Norway)

Email: [wenche.nystad@fhi.no](mailto:wenche.nystad@fhi.no)

**ABSTRACT**

**Background:** Many choices must be made in the planning of pregnancy cohorts: research questions, recruitment method, inclusion of father, biological samples, uses of questionnaires, interviews and clinical examination. These choices have lasting consequences.

**Objective:** To give the background for the choices made in MoBa.

**Experiences:** The data collection is not guided by specific research questions. The important focus is to collect as diverse exposure data as possible and to choose biological sampling, processing and storage that will make the cohort valuable for the coming decades. We have linked our invitation file to the Medical Birth Registry and performed analyses to determine the selection bias to participation. Also, the selection to loss to follow-up has been analysed and the consequences for the external validity of the study will be discussed. We have made special efforts to include designs that allow gene-environment interactions with a focus on the stratified case-offspring design

**Small children in care. Primary results from a Danish Longitudinal cohort study (PP)**

Presenters: Tine Egelund and Anne-Dorthe Hestbaek (The Danish National Institute of Social Research)

Emails: te@sfi.dk / adh@sfi.dk

**ABSTRACT**

This abstract concerns a longitudinal study of Danish children, born 1995, presently (or formerly) placed in out-of-home care. The focus is risk, protection and resilience in the lives of children in care.

First data collection was in 2003, where the children were 7-8 years old. The study is based on standardized interviews with mothers, questionnaires to municipal child protection workers, and to carers in foster homes and residential settings.

Results show that 7-8 years old children in care are disproportionately disadvantaged. Compared to children of the same age in general, to children from socially disadvantaged families (not in care), and to children in care in general, their childhood is characterised by adverse living conditions and cumulation of multiple risk factors. The children themselves are characterised by multiple disadvantages, e.g. severe physical health problems. More than half of them are scored into the abnormal category of the SDQ-scale (measuring emotional problems, conduct disorder, hyperactivity, and peer relation problems). Further, they perform poorer in school than do their contemporaries.

Parents of small children in care are predominantly lone mothers who have experienced a turbulent life, being young mothers with many children. Most are excluded from education as well as the labour market, and therefore subject to poverty. They have frequent and severe physical and mental health problems, substance abuse, violent marriages, etc.

Follow-up studies will be carried through every third year. Second data collection will take place in 2006 where newcomers into care from the 1995 cohort will be included.

## **Factors associated with relatively delayed development in infancy (PP)**

Presenter: Eric Emerson (Institute for Health Research, Lancaster University, UK)

Email: [eric.emerson@lancaster.ac.uk](mailto:eric.emerson@lancaster.ac.uk)

### **ABSTRACT**

**Background:** The efficient design and delivery of preventative interventions requires contemporary culture-specific knowledge of risk factors associated with developmental delay. The aim of this paper is to identify risk factors in a contemporary cohort of UK infants.

**Methods:** Secondary analysis of data collected in Wave 1 of the Millennium Cohort Study. Early relative developmental delay (ERDD) was operationally defined as scoring within the bottom 2.5% on age-corrected summed scores on items from the Denver Developmental Screening Test. Logistic regression was employed within a broad path analytic framework to identify proximal and distal factors associated with ERDD.

**Results:** ERDD was strongly associated with birth weight and pre-term delivery and, when controlling for these factors, moderately related to indicators of socio-economic position (assets, work status, maternal education), maternal characteristics (age, health), household composition (lone parent status, number of siblings) and social support. Birth weight and pre-term delivery were themselves predicted by maternal ethnicity, equivalised household income, maternal health and disability, maternal education and social support.

It may be possible, depending on the scale of delay of Wave 2 data, to also include some preliminary analyses of the association between ERDD and developmental status at age 3. Project funded by Lancaster University Research Committee.

**Factors related to symptoms of Attention Deficit Hyperactivity Disorder in school age children: findings from the Auckland Birthweight Collaborative (ABC) Study (PP)**

Presenter: Christine Bibby Cornforth (The Department of Paediatrics, University of Auckland, New Zealand)

Email: c.bibby@gmail.com / c.bibby@auckland.ac.nz

**ABSTRACT**

**Aims:** To identify risk factors for Attention Deficit Hyperactivity Disorder (ADHD) and to determine if these risk factors differ for small-for-gestational-age (SGA) children.

**Methods:** The Auckland Birthweight Collaborative Study is a longitudinal cohort of 871 Mothers and their infants. Children were born at term and approximately half were SGA ( $\leq 10$ th percentile for gestation). Extensive data has been collected over four phases: birth, 12 months, 3.5 years and 7 years of age. Symptoms of ADHD were measured at age 7 years using the Conners' Rating Scale-Revised: Long Format (CRS-R:L), parent and teacher reports. Weighted analyses were performed using Generalised Linear Models for repeated measures, including Generalised Estimating Equations.

**Results:** The prevalence of ADHD symptoms did not differ between SGA and appropriate-for-gestational-age infants. An adjusted analysis revealed the following variables were associated with significantly higher ADHD symptom scores: high maternal stress during the last month of pregnancy ( $p=0.05$ ); children born to single mothers ( $p=0.006$ ); ( $p=0.05$ ); and children born to mothers aged  $<20$  years was found to be of borderline significance ( $p=0.07$ ). In addition, the lower a child's IQ the more likely teachers were to report symptoms of inattention. Parents were more likely to report symptoms of Hyperactivity – Impulsivity if children had behaviour problems at 3.5 years of age or if they were not living with their biological father.

**Conclusions:** This study supports the theory that ADHD is influenced by sociodemographic and environmental factors during development. Importantly, we found that there were no risk factors that were particular to the SGA sample.

**Family history of psychiatric disorders and trajectories of antisocial behaviour in the Dunedin Study (PP)**

Presenter: Barry Milne (Institute of Psychiatry, Kings College London, UK)

Email: b.milne@iop.kcl.ac.uk

**ABSTRACT**

Family history is an established risk factor for antisocial behaviour, but the role of family history of psychiatric disorders in differentiating antisocial subtypes has not been investigated. Using data from the Dunedin Study – a longitudinal birth cohort of 1037 children born in Dunedin, New Zealand in 1972-73 and assessed at birth and ages 3, 5, 7, 9, 11, 13, 15, 18, 21, 26 and 32 (96% retention rate) – we defined four subtypes based on their longitudinal trajectories of antisocial conduct problems: a 'low' class (46%) characterised by low levels of antisocial conduct problems; a 'childhood-limited' class (24%) whose antisocial behaviour was limited to childhood; an 'adolescent-onset' class (20%) whose problems emerged during adolescence; and a 'life-course-persistent' class (10%) who initiated antisocial behaviour early and persisted into adulthood. Subtypes were compared on their family history of psychiatric disorder, as reported by cohort members and their parents. There were two main findings. (1) Members of the 'life-course-persistent' subtype had the most family members with externalising problems (i.e., conduct disorder, alcohol dependence, drug dependence and smoking), suicide attempt and psychosis. (2) Members of the 'adolescent-only' subtype had the most family members with internalising problems (i.e., depression and anxiety). We conclude that antisocial subtypes can be differentiated using family history of psychiatric disorders. Family history might therefore be valuable in refining diagnostic systems and screening for early intervention.

This study has been supported by the Health Research Council of New Zealand.

**The Southampton Women's Survey: a pre-pregnancy cohort (PP)**

Presenter: Hazel Inskip (Medical Research Council, University of Southampton, UK)

Email: hmi@mrc.soton.ac.uk

**ABSTRACT**

Child cohort studies generally recruit their participants no earlier than during the mother's pregnancy. In the Southampton Women's Survey (SWS) we recruited a population sample of young women when they were not pregnant, followed them through their subsequent pregnancy, and are now studying the children. The main aim of the SWS is to examine the effects of maternal factors operating before and during pregnancy on the growth and development of the fetus and child.

12,500 women aged 20-34 years were recruited during 1998-2002 from the general population in Southampton UK and were interviewed in their homes. 75% of those contacted took part. The data collected include diet, body composition, socio-economic factors, lifestyle, and general health. 70% of women provided blood samples. In pregnancy, the women were studied at 11, 19 and 34 weeks gestation when fetal ultrasound scans were performed and further dietary and other data collected. The babies were measured at birth. Nearly 3000 children were born into this study between 1999 and 2006 presenting the challenge of following up a cohort spanning a wide age range. The children are, however, followed up at home at 6, 12, 24 and 36 months, and to-date the follow-up rate at 36 months is 84% of births. A sample is seen at age four years at a clinic visit, when a DXA scan is performed to assess body composition. Home and clinic visits at six years are starting shortly and plans for the eight-year assessments are underway.



# Oral presentations

## Thursday 14 September

**(OP = oral presentation)**

This booklet lists presenters only. Please note that many of the papers have multiple authors.

**Explanations for area inequalities in parents of young children (OP)**

Presenter: Mel Bartley (Department of Epidemiology and Public Health, University College London, UK)

Email: m.bartley@ucl.ac.uk

**ABSTRACT**

There are clear ethnic inequalities in health in early and later life, however the pathways that lead to these inequalities in health throughout the lifecourse are not well understood. Explanations for observed differences in health across ethnic groups include those based on socioeconomic, "cultural" and genetic factors, and the experience of racism and discrimination.

We will examine the role of the social context on the health of parents by assessing the relative importance of material, psychosocial and "cultural" factors, health related behaviours and neighbourhood characteristics .

The data used are taken from the Year 2000 Millennium Cohort Study, where all adults are parents of children born in England, Scotland, Wales, and Northern Ireland around the time of the Millennium. The sample was constructed in such a way as to over-represent parents from ethnic minority groups, and from areas of relatively high ethnic community representation. Areas experiencing economic deprivation at the time of the Survey were also over-represented. The clustering of the sample was designed to facilitate analysis of neighbourhood characteristics.

Preliminary results show that parental health is strongly related to household income and thus on the material environment of children. The relative importance of material and behavioural differences between poorer and richer areas will be analyzed, as will the significance of racism and discrimination.

## **Hospitalization among children 0 to 6 years old: are there neighbourhood effects? (OP)**

Presenter: Nazeem Muhajarine (Department of Community Health and Epidemiology, University of Saskatchewan, Canada)

Email: nazeem.muhammad@usask.ca

### **ABSTRACT**

**Introduction:** Hospitalization accounts for much of the expenditures for child health care, and differences in the rate of hospitalization may produce important variations in its cost. Individual and family characteristics only partly explain these differing rates; we hypothesized that the characteristics of neighbourhoods in which children live may further account for differences.

**Methods:** We retrospectively followed a population of 9,888 children from birth to age six born to women residing in Saskatoon, Canada over a three year period (1992-1994). Birth registry records and neighbourhood of residence at birth for cohort members were linked to health care utilization files to create continuous histories of health care utilization for each child. Data related to neighbourhood characteristics were extracted from Statistics Canada's 1991 Census and numerous local sources. Longitudinal and multilevel designs were employed to examine the effect of family income and neighbourhood characteristics on childhood hospitalization. **Results:** Male children, children with young mothers (less than 20 years), aboriginal children, children in low-income families, and those born with adverse birth outcomes had significantly higher hospitalization rates. Additionally, children in disadvantaged neighbourhoods, with poor physical environments and higher population density had significantly higher rates of hospitalization.

**Conclusions:** Both family and neighbourhood socioeconomic characteristics determine childhood hospitalizations (incident and volume). Poor neighbourhood physical environments, which are often associated with low income neighbourhoods, do not entirely explain the observed association between neighbourhood socio-economic status and hospitalization among children age 0-6. More studies are needed to understand the mechanisms of neighbourhood effects on child health care outcomes.

## **MMR uptake in a national prospective cohort: geographical distribution, predictors and parental reasons for declining MMR vaccine (OP)**

Presenter: Lamiya Samad (Institute of Child Health, University College London, UK)

Email: l.samad@ich.ucl.ac.uk

### **ABSTRACT**

**Introduction:** Following publication of a paper in 1998 which was interpreted as suggesting a link between measles, mumps and rubella (MMR) combined vaccine and autism and bowel disease,<sup>1</sup> there has been concern about the safety of the vaccine. Despite a considerable body of research conducted subsequently finding evidence for no link, uptake of the vaccine has fallen in the UK, and is below levels needed for herd immunity. This continued low uptake will lead to the re-emergence of measles, mumps and congenital rubella syndrome in the UK.

**Aim:** To determine the uptake of the first dose of MMR vaccine among 3 year old children in a large, nationally representative sample.

**Design:** Cohort study.

**Participants and Methods:** Parents of children included in the Millennium Cohort Study (immunisation data for infants at first sweep=18488). At the second sweep, conducted when the cohort members were 3 year old, parents were asked if their child had had MMR vaccine and if not, the reasons for this. Results will be presented of analyses performed in STATA using sample weights to adjust for the survey design effect. Descriptive statistics will include weighted percentages of MMR uptake for UK countries including mapping of the English regions. Multivariable regression analyses will be performed to determine socio-demographic factors and maternal characteristics predictive of MMR uptake. Parents' reasons for declining MMR will be presented.

Our findings will provide further evidence to inform strategies to improve MMR rates among children in the UK.

1. Wakefield AJ, Murch SH, Anthony A, Linnell J, Casson DM, Malik M, et al. Ileal-lymphoid nodular hyperplasia, non-specific colitis, and pervasive developmental disorder in children. *Lancet* 1998; 351:637-41.

## **The effects of income changes and mobility on parents' smoking behaviour (OP)**

Presenter: Ian Plewis (Centre for Longitudinal Studies, Institute of Education, UK)

Email: [i.plewis@ioe.ac.uk](mailto:i.plewis@ioe.ac.uk)

### **ABSTRACT**

Smoking affects individuals' health and smokers can have deleterious effects on the health of the people they live with, including their children. Previous research by the author, based on data from sweep one of MCS and using a multivariate multilevel model with smoking treated as an ordered categorical variable, shows that parents in higher income households are less likely to smoke, conditional on their own and their partner's education qualifications. The probability of being a heavy rather than a light smoker is, however, only weakly related to income. Additionally, parents living in disadvantaged areas are more likely to smoke, again after controlling for individual and household variables. The analyses were restricted by the cross-sectional nature of the data but generated hypotheses that can be tested using data from sweeps one and two. Consequently, this paper will:

- (a) examine the effects of changes in household income on decisions to start or quit smoking and to change the amount smoked;
- (b) determine whether residential mobility away from and into disadvantaged areas is related to smoking behaviour.

For both (a) and (b), it will be important to take account of changes in household structure, for example changes of partners and the arrival of new children. The analysis will be based on the same statistical model used for the cross-sectional data but this time conditioning on smoking behaviour at sweep one, thereby eliminating some of the problems caused by self-selection.

**International differences in policies towards child well-being (OP)**

Presenter: Jonathan Bradshaw (Department of Social Policy and Social Work, The University of York)

Email: jrb1@york.ac.uk

**ABSTRACT**

This paper will compare child well-being in industrialised countries. Child well-being is the outcome of a whole range of personal, social and biological processes. Amongst these and influencing them is the state through its public social policies. Governments seek to help families with the tasks of child rearing. They do it in different ways. We know that some states achieve better well-being for their children than others. Is this because some states do more than others – they make more effort? Is it because some states focus their policies more effectively? Or is it nothing to do with the structure and level of public policy but merely the level of development of a country, its culture, climate, geography, demography or biology or other factors more or less independent of and beyond the control of governments and public policy?

These are important questions. It is clear that child well-being is associated with well-becoming. Lots of children doing badly means poor adult human capital which means wasted resources, more frustration and unhappiness and all sorts of social and economic problems. Some would emphasise the impact on global competitiveness and economic success. Increasingly others are concerned with well-being and happiness per se.

This paper is going to review where we are at in relation to these questions. It is largely a review of method but along the way I shall attempt to draw some conclusions about the relationship between inputs and outcomes.

**Antenatal maternal anxiety and depression and infant development and behaviour at 6 months of age (OP)**

Presenter: Rannveig Nordhagen (Norwegian Institute of Public Health, Norway)

Email: rannveig.nordhagen@fhi.no

**ABSTRACT**

Animal experiments have shown that stress during pregnancy affects the development of the offspring. This has also been suggested to take place in humans, as a programming effect, examining the children at 4 years of age in the ALSPAC study (O'Connor 2003). We test the hypothesis that maternal anxiety and depression during pregnancy are associated with the child's development as early as 6 months of age. Data from The Norwegian Mother and Child Cohort Study which follows the women and their children from pregnancy will be analyzed. Self-reported measures of anxiety and depression in the mothers were assessed at 30 weeks of pregnancy, and the children were examined in a questionnaire to the mother at 6 months. At present the data file contains information of about 28 000 women at both points in time. Preliminary analyses at an early stage of the study, suggested that there seemed to be an association between the mother's emotional state and the child's development, but this will be re-examined in the present quality controlled file.

**Mothers' employment and mental health in the first year of a child's life: a contrast between two maternity leave regimes (OP)**

Presenters: Heather Joshi and Kelly Ward (Centre for Longitudinal Studies, Institute of Education, UK)

Email: k.ward@ioe.ac.uk

**ABSTRACT**

Maternity leave policies are thought to protect the health of mothers and babies, whilst also providing mothers a right to re-entry into employment after childbirth. Paid maternity leave goes further than this. It assists with the economic costs of having a child and perhaps encourages the reproductive and productive abilities of women in society. Provision of maternity leave varies greatly across countries and this is likely to be reflected in produce differences in the labour market behaviour of mothers with young babies. We would expect to see any mothers, who do return at all, returning soon after their birth, where little or no paid maternity leave is offered. Where provisions are more generous we would expect to see a delay in mothers return to work but also, a higher proportion of mothers returning.

Australia is one of two OECD countries that do not currently have a paid maternity leave policy. Britain is one of those that does. Both countries offer maternity leave to workers. In Australia, women are entitled to 52 weeks unpaid maternity leave compared to women in Britain who are entitled to 26 weeks paid maternity leave and 26 weeks additional unpaid leave.

This paper offers a cross-country comparison of the time mothers return to work in the UK (using the Millennium Cohort Study) and Australia (using the Longitudinal Study of Australian Children) and explores the implications of this on their mental health and well-being.



**Family economic stress and child temperament (OP)**

Presenter: Ingrid Schoon (City University London, UK)

Email: i.schoon@city.ac.uk

**ABSTRACT**

Temperament differences in young infants have been considered as being purely constitutional, although there is also evidence to suggest that emerging psychological adjustment during the first year of life can be shaped through socialisation experiences. The aim of this paper is to investigate the link between socio-economic adversity in the family household and temperament in early childhood. A family process model is outlined linking socio-economic stress experienced by the parents to temperament in 9-month old infants. The model is tested with data collected for the Millennium Cohort Study (MCS), a survey of over 18,000 babies born between September 2000 and October 2001 in the UK. Findings of the path modeling strategy used, suggest that economic pressures lead to lowered self esteem and psychological distress among parents and more laissez-faire parenting, which had adverse consequences for the child's temperamental adjustment. Effects are similar for boys and for girls. The findings confirm the association between socio-economic adversity and expressed temperament variations of children, and are discussed in the light of family stress hypotheses.

**Socially patterned variations in fetal and infant mortality in the Danish National Birth Cohort (OP)**

Presenter: Anne-Marie Nybo Andersen (National Institute of Public Health, Denmark)

Email: ana@niph.dk

**ABSTRACT**

Perinatal and infant mortality has been used as indicators of developmental status of a society and social gradients in these measures might reflect level of equity in child health.

Studies from a number of European welfare countries have shown large and increasing social gradients in stillbirth and infant mortality. Reviews of the literature show, however, that the indicators of social position vary between studies and the results are very heterogeneous.

In this study, based on data from over 100,000 pregnancies in the Danish National Birth Cohort and national social registers, social patterns in fetal death and infant mortality are explored using a variety of social indicators, such as maternal and paternal level of educational, occupational status, income, and resilience of social subsidies. Variations in social patterning of fetal and infant mortality according to choice of social indicator are demonstrated and an interpretation of the underlying explanations behind these variations is discussed.

Furthermore, variations in social gradients in mortality between the different phases of fetal and infant life (e.g. early fetal, late fetal, neonatal, post neonatal life) are investigated and will be discussed.

Finally, the results are compared with findings from national register-based studies and differences will be discussed.

**Which aspects of socio-economic status are most associated with body composition outcomes at the end of childhood? (OP)**

Presenter: Paula Griffiths (Centre for Human Development and Ageing, Loughborough University, UK)

Email: p.griffiths@lboro.ac.uk

**ABSTRACT**

In the past decade the number of deaths from non-communicable diseases in developing countries has exceeded those observed in developed nations. Socio-economic status (SES) is known to be associated with a range of non-communicable diseases in adults as well as growth and infectious diseases in children.

This paper uses data from a sub-sample (n=242) of the Johannesburg-Soweto based Birth to Twenty cohort (n=3273; Wellcome Trust funded). Regression models are used to estimate associations between measures of SES taken at birth and ages 9/10 years with anthropometric outcomes at 9/10 years.

Findings reveal that measures of SES at 9/10 years are stronger predictors of anthropometric outcomes at the end of childhood than SES measures assessed at birth. Later analyses will consider whether these associations are mediated through the timing of puberty, which may vary between different SES groups. The finding that SES in later childhood is a stronger predictor of body composition outcomes in children than birth SES measures is not consistent with other studies that have assessed adult health and body composition outcomes. Adult studies show that measures of SES at birth/early childhood are stronger predictors of adult health outcomes than those assessed in adulthood. However, adult studies commonly do not have any measures assessed between birth/early childhood and adulthood. This study therefore shows that understanding the role of SES throughout childhood is important for our understanding of child and adult health outcomes.

**The impact of asthma on children's school functioning (OP)**

Presenter: Dafna Kohen (Health Analysis and Measurement, Statistics Canada)

Email: dafna.kohen@statcan.ca

**ABSTRACT**

Asthma is a chronic condition with the reported prevalence for children and youth increasing over time in several industrialized countries including Canada, the United States, Australia, and Great Britain. While the increased absenteeism of children with asthma has been well documented, associations between asthma severity and school performance are inconclusive. The purpose of the present study was to examine the association of childhood asthma with school absence and school functioning using a cross-sectional subsample of school aged children from the third cycle of the Canadian National Longitudinal Survey of Children and Youth (NLSCY), collected in the fall of 1998 and the spring of 1999 (n=8,914).

Findings suggest that children with asthma missed more school days and exhibited poorer performance on math and reading than non-asthmatics. Children with the most severe asthma had the poorest outcomes. These associations were maintained even after adjusting for child and family demographic factors. However, the use of special services appears to mediate poor math and reading performance for children with asthma.

Children suffering from asthma are at an increased risk for poor school functioning and increased severity is associated with the poorest functioning. Findings from this study suggest that poor school functioning is not due solely to school absence and that special scholastic services may reduce differences in math and reading scores between children with moderate or severe asthma and healthy children.

**The MRC Determinants of Adolescent Social well-being and Health (DASH) study: a school-based study of young people from different ethnic groups in London (OP)**

Presenter: Seeromanie Harding (Medical Research Council Social and Public Health Sciences Unit, University of Glasgow, Scotland)

Email: seeromanie@msoc.mrc.gla.ac.uk

**ABSTRACT**

Ethnic differences in health in adulthood in the UK are well documented but very little is known about their causes or when in the lifecourse these differences begin to emerge. DASH is a longitudinal study specifically designed to examine how social, psychosocial and biological factors interact to influence the health of ethnic minority young people in the UK. In particular, DASH explores the role of the family and how this interacts with socio-economic disadvantage to influence health in adolescence.

In 2003, 6,632 adolescents (including 1,189 White British, 907 Black Caribbeans, 1,056 Black Africans) in 51 schools in London, aged 11-13 years, took part in Phase 1. Pupils completed a questionnaire and had carefully standardised measures of anthropometry, blood pressure and lung function. These pupils, now 14-16 years old, are currently being followed up to identify early ethnic divergence in health indices and how these relate to changes in longitudinal correlates. Proposed nested studies include a detailed study of ethnic differences in energy balance and of ethnic differences in vascular health.

This presentation will discuss the conduct of a cohort study of ethnic minorities in an urban setting and strategies used to prevent and reduce attrition, and give an overview of findings on ethnic differences in psychological and cardiovascular health.

## **What role for the 3 Rs? Predicting success at Key Stage 2 (OP)**

Presenter: Kathryn Duckworth (Centre for Research on the Wider Benefits of Learning, Institute of Education, UK)

Email: k.duckworth@ioe.ac.uk

### **ABSTRACT**

This paper seeks to inform the understanding of how features of children's cognitive abilities develop during primary school and identify important influences in predicting their educational success. Using data from a longitudinal sample of children surveyed from birth, this study explores the particular contributions of different features of children's changing cognitive ability as they progress through the primary years in predicting their subsequent achievement. Academic achievement is measured at age 11 in terms of Key Stage scores in English, Maths and Science.

We test how changes in measured ability over the Key Stage 1 period predict achievement by the end of the primary years, controlling for cognitive skills and self-regulation measured prior to and at school entry. Other broad-ranging, comprehensive controls are introduced into the regression models in order to reduce bias caused by unobserved features of the developing child, her pre-school ability and emerging IQ and proximal environment.

Findings from similar analyses in other birth cohort studies suggest important roles for early mastery of mathematical type skills, the wisdom of distinguishing between cognitive and emotional self-regulation and the power of early assessments of developing capabilities in predicting later school success. We hope to further unpack these existing findings both through the use of a more recent birth cohort containing extremely rich child, family and school level measures and by assessing developmental trajectories using current national curriculum Key Stages.

## **Research questions and initial findings from the Longitudinal Study of Australian Children (OP)**

Presenter: Ann Sanson (University of Melbourne, Australia)

Email: [annvs@unimelb.edu.au](mailto:annvs@unimelb.edu.au)

### **ABSTRACT**

The Longitudinal Study of Australian Children (Growing Up in Australia) is designed to shed light on a number of policy-relevant questions on Australian children's development and wellbeing. Wave 1 data collection was completed in 2004, on a representative sample of 5107 infants and 4983 4-5 year olds. The poster and an accompanying paper by Soloff et al. will describe the sample, design, data and response characteristics in more detail. This paper will outline some of the major research questions being addressed by the study, describe the Outcome Index designed to summarise children's developmental outcomes across physical, socio-emotional and learning domains, and outline some initial findings.

Research questions revolve around three main areas:

1. Families - e.g. How are Australian parents going about their parenting? Associations among financial stress, parenting stress, parenting practices, and child outcomes; The roles of non-resident parents and grandparents; How does access to family-friendly work provisions impact on child outcomes?
2. Physical and mental health - e.g. Association of overweight and obesity with child, family and socio-demographic factors; Association of injuries with child, family and community factors; Predictors of children's emotional and behavioural problems.
3. Child care and early learning - e.g. impact on child of age at entry to childcare, and the stability, amount, type and quality of care, in interaction with other child and family factors;; Impact on child's cognitive development and readiness to learn of formal and informal early learning experiences.

Initial findings from Wave 1 data relevant to these questions will be presented.

**The need for risk period specific analysis of cohort studies - an illustration from the KOALA Birth Cohort Study (OP)**

Presenter: Carel Thijs (Department of Epidemiology, University of Maastricht, The Netherlands)

Email: c.thijs@epid.unimaas.nl

**ABSTRACT**

A strength of cohort studies is the longitudinal design enabling to study cause-effect relationships in time, but only if reverse causation can be excluded. This requires that the period of exposure is defined in such a way that it precedes the period in which the disease outcome occurs (risk period). Often exposure continues or repeats during the follow-up period while outcomes already occur, so that the time relation (causal relation?) between exposure and outcome becomes unclear. This poses problems when duration of exposure (e.g. breastfeeding duration) or number of repeated exposures (e.g. vaccinations) is of interest. We propose to split up the follow-up period into subsequent risk periods in order to separate exposure and outcomes in time (risk period specific analysis). We illustrate this using data on breastfeeding duration and risk of atopic eczema from the KOALA Birth Cohort Study. Reverse causation may occur if mothers quit breastfeeding when her infant gets atopic eczema and revert to hypoallergenic formula feeding in order to prevent further symptoms. We will present a risk period specific analysis that tries to circumvent reverse causation, and compare it with the results of a conventional analysis.



**Factors affecting maternal consent to collection of oral fluid in the home setting in the Millennium Cohort Study (OP)**

Presenter: Suzanne Bartington (Institute of Child Health, University College London, UK)

Email: s.bartington@ich.ucl.ac.uk

**ABSTRACT**

**Background.** Cohort study data may be enhanced by the collection of biological samples. Oral fluid collection is non-invasive and non-hazardous. The development of sensitive and specific assays has enabled oral fluid to be used for population seroprevalence studies.

**Objectives:** To evaluate the feasibility of collection and postage of oral fluid samples from children aged three years in a UK cohort study. To examine factors associated with maternal consent to oral fluid collection.

**Participants:** Children who are members of the Millennium Cohort Study, born between September 2000 and January 2002, living in the UK at age three years.

**Methods:** Interviewers were trained in use of the Oracol (Malvern Medical Products, UK) oral fluid collection device by video presentation. At interview, mothers were given an information sheet, shown how to use the Oracol device and written consent for sample collection was obtained. Samples were labelled, packaged and posted to the Health Protection Agency for storage and analysis.

**Results:** 14,876 families participated in the survey, 76.5% (11222) of whom gave consent to oral fluid sampling. 73 % (8192) of samples arrived at the HPA within three days of collection.

**Conclusions:** Oral fluid collection by mothers under the guidance of interviewers was successful in the Millennium Cohort Study. Postal delivery of samples was efficient and samples were of high quality for analysis. Biological samples can be effectively collected by non-medical personnel in the home setting in child cohort studies.

The Millennium Cohort Study is funded by the ESRC and a consortium of government funders.

## **Attention-Deficit Hyperactive Disorder and conduct disorders and involvement in different bullying roles in a British community sample (OP)**

Presenter: Muthanna Samara (University of Bristol. UK)

Email: muthanna.samara@bris.ac.uk

### **ABSTRACT**

**Background:** Difficulties faced by children with attention-deficit hyperactive disorder (ADHD) and conduct disorders may predispose them to become bullies and/or victims of bullies. We investigated this in a large cohort of British primary schoolchildren.

**Method:** Parents and teachers of 8263 children aged 7 years 7 months in the ALSPAC study completed questionnaire versions of the Development and Well-Being assessment (DAWBA) to obtain DSM-IV diagnosis. Face to face interviews on bullying involvement were administered to children at 8 years 6 months. **Results:** Children with externalising behaviour comorbidity, ADHD, CD, or ODD were more likely to be victims of physical and verbal bullying, while children with no disorder were more likely to be not involved in bullying. As the number of psychiatric disorders increased, children were more likely to be involved in bullying behaviour one year later. Specifically, children who were diagnosed with pure ADHD were at a highly increased risk for becoming victims (2.6 times) and bully/victims (4.5 times), even when adjusting for sex, family adversity and IQ. Children diagnosed with pure ODD/CD or comorbidity were most often bully/victims (6.1 and 9.3 times, respectively). **Conclusion:** Children diagnosed with ADHD/ODD-CD are at increased risk for involvement in bullying behaviour at school and may require early intervention.

**Ethnic differences in changes in family structure in the UK (OP)**

Presenter: Lisa Calderwood (Centre for Longitudinal Studies, Institute of Education, UK)

Email: l.calderwood@ioe.ac.uk

**ABSTRACT**

This paper uses the UK Millennium Cohort Study (MCS) to examine ethnic differences in changes in household composition between 9 months and 3 years. The MCS follows nearly 19,000 children born in 2000/2001 and is funded by the Economic and Social Research Council (ESRC) and a consortium of UK government departments led by the Office for National Statistics (ONS). This study over-samples areas with high minority ethnic populations, providing a rich source of data to study ethnic diversity.

The paper estimates gross and net flows of fathers or father figures into and out of the child's home in the first few years of life and explores how these differ by ethnic group. It also looks at other socio-demographic correlates of changes in family structure.

Analysis of the first sweep of the MCS has revealed large and significant differences in family structure by ethnic group. Overall about 1 in 7 of the children in the study were not living with a father at 9 months. This figure rises to nearly half of Black African and Black Caribbean children. Evidence from the US National Longitudinal Study of Youth (NLSY) revealed interesting differences by ethnic group in changes in family structure between birth and 4 years. Among non-black families the overall proportion of lone parent families increases over this time period but among black families there is a net reduction in the proportion of lone parent families.

This paper offers a comparative analysis of the UK and US by replicating work on NLSY.

**The role of parenting on early adolescent sexual behaviour (OP)**

Presenters: Amanda Koch and Elizabeth Cooksey (The Ohio State University, USA)

Emails: koch.135@osu.edu / cooksey.1@osu.edu

**ABSTRACT**

Despite recent reductions in teenage pregnancy, American teens still have a higher rate of teen births and abortions than teens in other developed countries. One reason for this discrepancy is that they have lower rates of contraception, and are especially less likely to use hormonal methods. Their higher rates of STDs also suggests less condom use.

Much recent research has questioned why some teens are more likely than others to have sex, and among those who do, what differentiates teens who use contraception from those who do not. We focus on the linkage between various aspects of parenting and the mother-child relationship on the one hand, and adolescent sexual debut and contraceptive use on the other. While prior research has included aspects of parenting as predictors of adolescent sexual behavior, the nature of the relationships found has not always been consistent.

We use data from the 1997 through 2000 rounds of the 1997 National Longitudinal Survey of Youth and concentrate on a sample of youth who are either 12 or 13 years of age in 1997, and hence only 15-16 years of age in 2000. This is an especially important group of adolescents to study as American teenagers are more likely than their counterparts in other developed nations to have sexual intercourse before age 15, and each year approximately 19,000 American girls aged 14 and under become pregnant. Further, the negative consequences of early childbearing are particularly worrisome at these youngest ages.

**Grandparental involvement in child-rearing and childcare (OP)**

Presenter: Kirstine Hansen (Centre for Longitudinal Studies, Institute of Education, UK)

Email: k.hansen@ioe.ac.uk

**ABSTRACT**

Research issues: In Britain, the last fifty years have seen large increases in the number of women in the labour market, particularly mothers of dependent children. For most mothers with young children below school age, employment requires finding an alternative source of childcare. Using evidence from the Millennium Cohort Study (MCS) the most popular form of non-maternal childcare is provided by grandparents. 49 percent of working mothers of 9 to 10 month old children in the MCS rely on care provided by the children's grandparents (in most cases the grandmother). A few children live in the same household as a grandparent, mostly either from some ethnic minorities or with very young mothers. There is a largely unresolved debate about the effect that non-maternal childcare has on child outcomes, but in a number of recent studies it was in the families who relied on care provided by grandmothers where the adverse outcomes were observed. This research aims to examine the important role that grandmothers play in providing childcare, and helping with child-rearing more generally, to try to unpick what it is about grandparent care that is associated with child outcomes, and to understand the social and demographic circumstances in which active grandparenting is more likely.

**Child care arrangements of children in the Early Childhood Longitudinal Study-Birth Cohort of 2001 (ECLS-B) (OP)**

Presenter: Jennifer Park (US Department of Education, USA)

Email: [jennifer.park@ed.gov](mailto:jennifer.park@ed.gov)

**ABSTRACT**

The ECLS-B is a US 2001 birth cohort study of approximately 10,000 children designed to measure factors relating to school readiness. It is sponsored by the National Center for Education Statistics (NCES) of the US Department of Education, and several other US federal research agencies. The study follows children from infancy (birth certificate data and data at 9-months), through toddlerhood (2-years) and preschool (4-years), to kindergarten entry (5 and 6 years). Direct cognitive, physical and socioemotional assessments are conducted at each wave. Data related to early learning experiences are collected from parents (mothers and fathers), child care providers, teachers, and school administrators. Additionally, mother-child interactions are measured via videotape, and trained observers measure classroom observations. Oversamples of low and very low birth weight and twin children facilitate reliable statistical estimation for these groups.

This paper will complement a poster overview by providing an in-depth look at survey activities related to the collection of data on children's participation in nonparental child care arrangements. The information to be discussed includes: conceptualization and operationalization of nonparental child care; design efforts to collect data on child care comparable to that which is collected in other NCES surveys; data collection instruments pertaining to child care; subsampling for child care provider interviews and child care observations; and issues encountered and solutions reached during data collection. Nationally representative estimates of child care receipt by demographic characteristics and type of care at 9 months and 2 years of age will also be shown.

**The Families, Children and Child Care (FCCC) Project (OP)**

Presenter: Lars-Erik Malmberg (Department of Educational Studies, University of Oxford, UK)

Email: lars-erik.malmberg@edstud.ox.ac.uk

**ABSTRACT**

The aim of the Families, Children and Child Care (FCCC) project is to investigate the effects of early child care on child cognitive and social outcomes, guided by an overall ecologic-contextual model. The model proposes multiple influences on maternal selection of child care (e.g., government policy-context, family, maternal and child characteristics); multiple antecedents and effects of child care onset, type, amount and number of changes, and quality, on children's social, and cognitive outcomes. Recruitment was carried out in pre- and post-natal clinics, in North London and Oxfordshire. The North London sample was below the national deprivation average while Oxfordshire was above. However, the combined sample resembled the area-level socioeconomic distribution quite well. Data were collected by interviews, questionnaires, standardized tests and observation in the home and in child care settings. Totally 1201 mothers were interviewed when their child was 3 months old and families were followed up at 10, 18, 36 and 51 months. At 3 months around 8% of the families were using non-maternal child care, at 10 months 47%. Selection into early child care was related to sociodemographic characteristics; at 3 and 10 months parents from a lower sociodemographic background chose father or grandparent-relative care, and more advantaged parent chose childminders or friends, nannies or nursery care. Forthcoming publications in the project will report effects of child care on developmental outcomes at 18, 36 and 51 months.





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# International Conference on Child Cohort Studies

12 to 14 September 2006 at St Catherine's College, Oxford

This booklet contains the programme and abstracts for the International Conference on Child Cohort Studies.

The conference focuses on the international experience of large-scale birth cohort studies which were started around the turn of the new millennium. National birth cohort studies were pioneered in Britain with the 1946, 1958 and 1970 studies. Today, similar studies are being carried out in many other countries across the globe. At this conference we are hoping to provide a unique environment for disseminating information on this new generation of studies, whose subjects were born within a decade either side of the year 2000. The aim of this event is to promote communication and comparison between researchers working on studies of this nature across the world.

The International Conference on Child Cohort Studies has been organised by the Centre for Longitudinal Studies (CLS), an ESRC-funded Resource Centre based at the Institute of Education, University of London.

CLS would like to acknowledge the support provided for this meeting by the Economic and Social Research Council (ESRC) and the British Academy. Thanks also go to The Policy Press, who have kindly sponsored the welcome drinks on the first day of the conference.

Presenter details, presentation titles and abstracts were correct at the time of going to press. Please note however that last-minute changes will not be reflected in this booklet.

Centre for Longitudinal Studies (CLS)  
Institute of Education  
20 Bedford Way  
London  
WC1H 0AL  
United Kingdom

Tel: +44 (0)20 7612 6875  
Fax: +44 (0)20 7612 6880  
Email: [cls@ioe.ac.uk](mailto:cls@ioe.ac.uk)  
Web: [www.cls.ioe.ac.uk](http://www.cls.ioe.ac.uk)



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